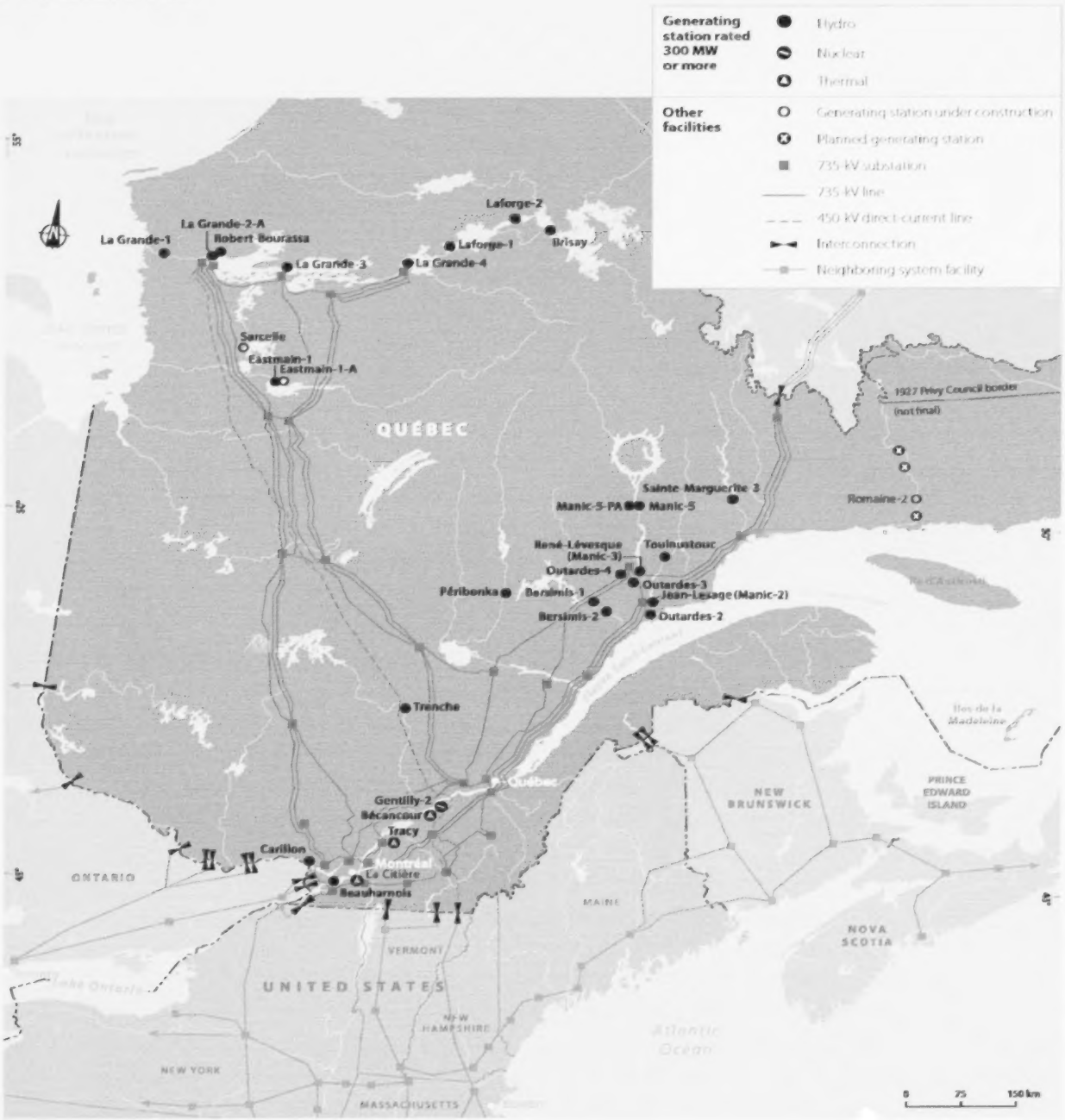
SUSTAINABILITY REPORT 2010

MAJOR FACILITIES



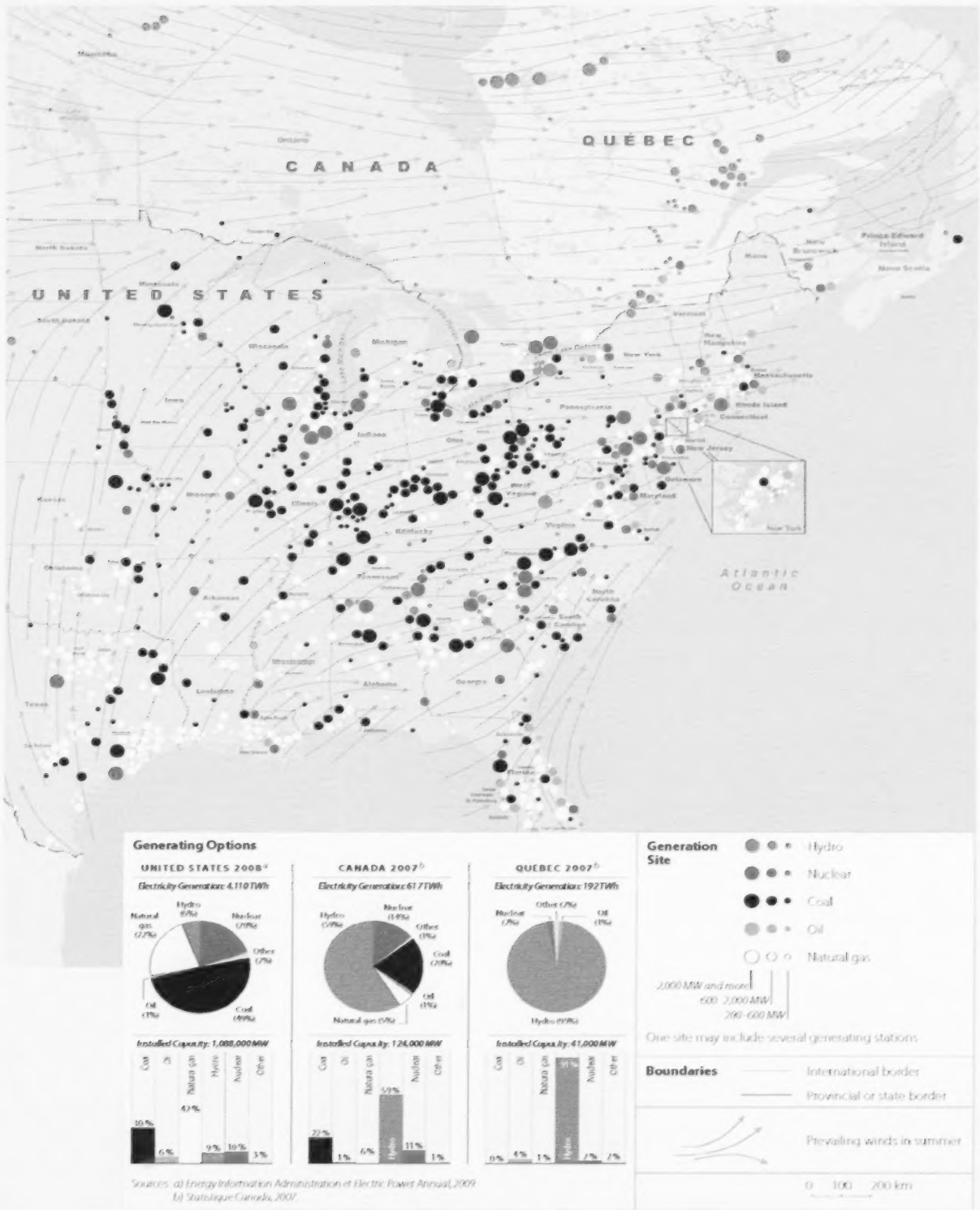
Hydro-Québec generating facilities – 2010

FACILITIES[a]	NUMBER	MW	NET OUTPUT (GWH)
Hydroelectric generating stations	60	34,490	157,219 (97.8%)
Nuclear power plant	1	675	3,292 (2.0%)
Thermal power plants	28	1,506	222 (0.1%)
Total	**89**	**36,671**	**160,733 (100%)**

a) One hydroelectric generating station and 24 of the 28 thermal generating stations are not connected to the main grid.

Note: Hydro-Québec also has access to almost all the output from Churchill Falls generating station (5,428 MW) under a long-term agreement with Churchill Falls (Labrador) Corporation Limited that runs until 2041. It also purchases all the output from nine privately owned wind farms with a total installed capacity of 659 MW. In addition, 1,277 MW are available under agreements with other independent suppliers.

ELECTRICITY GENERATION IN CANADA AND THE UNITED STATES



For animated or downloadable versions of this map, visit: http://www.hydroquebec.com/sustainable-development/documentation/documents.html

HYDRO-QUÉBEC

Hydro-Québec generates, transmits and distributes electricity. Its sole shareholder is the Québec government. It uses mainly renewable generating options, in particular hydropower, and supports the development of wind energy through purchases from independent power producers. It also conducts R&D in energy-related fields such as energy efficiency. The company has four divisions:

HYDRO-QUÉBEC PRODUCTION
generates power for the Québec market and sells its surpluses on wholesale markets. It is also active in arbitraging and purchase/resale transactions.

HYDRO-QUÉBEC TRANSÉNERGIE
operates the most extensive transmission system in North America for the benefit of customers inside and outside Québec.

HYDRO-QUÉBEC DISTRIBUTION
provides Quebecers with a reliable supply of electricity. To meet needs beyond the annual heritage pool, which Hydro-Québec Production is obligated to supply at a fixed price, it mainly uses a tendering process. It also encourages its customers to make efficient use of electricity.

HYDRO-QUÉBEC ÉQUIPEMENT ET SERVICES PARTAGÉS
and Société d'énergie de la Baie James (SEBJ), a subsidiary of Hydro-Québec, design, build and refurbish generation and transmission facilities, mainly for Hydro-Québec Production and Hydro-Québec TransÉnergie.

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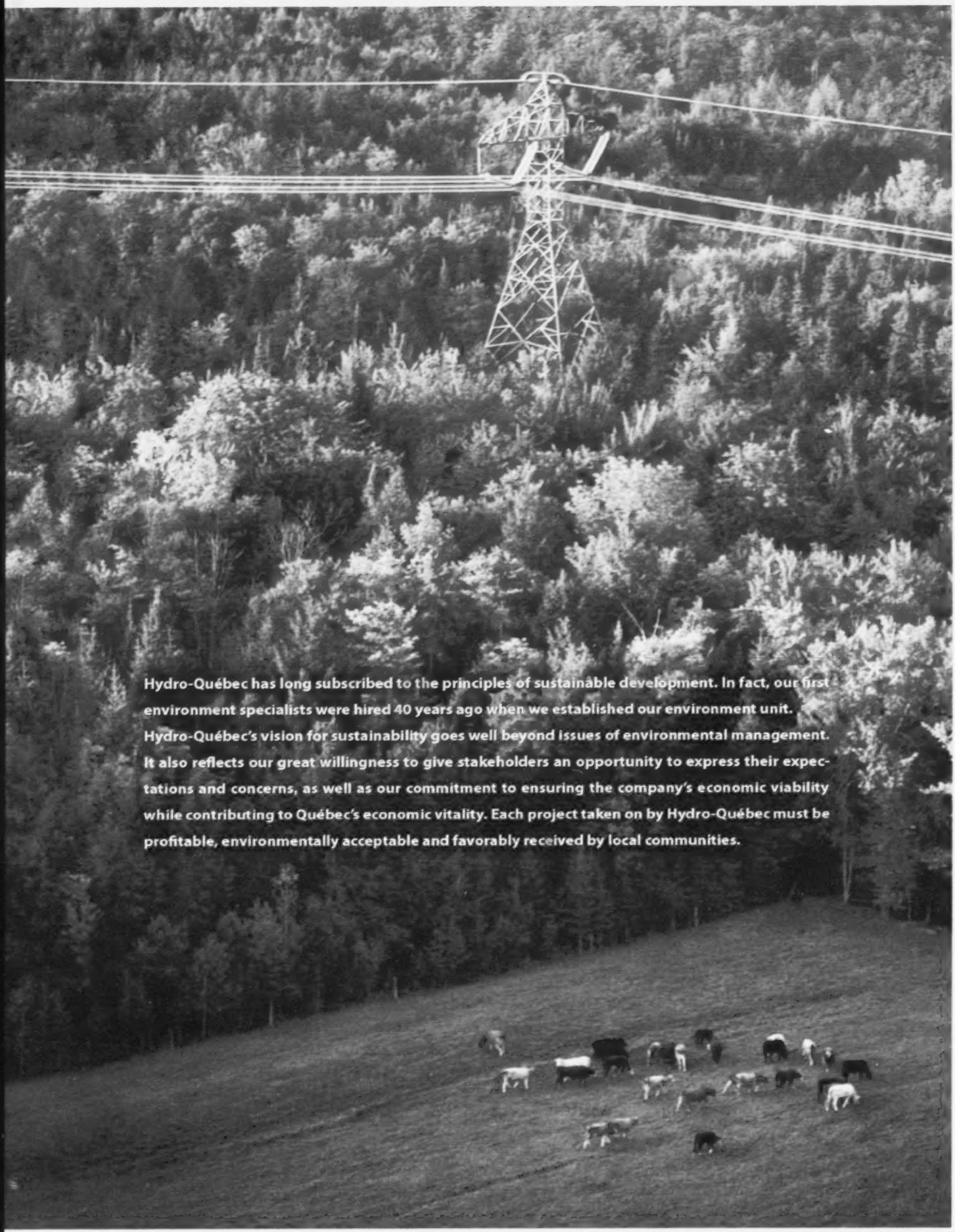
On the cover: In the Baie-James region, the weir at kilometre point 170 on the Rupert is the largest hydraulic structure built in the reduced-flow section of the river. Its main function is to maintain the water level in Lac Nemiscau—a key benefit for the lakeshore village of Vieux-Nemaska. Every summer, the Crees meet at this spot to reconnect with their traditions.

▶ *In Estrie, close to Des Cantons substation. The 450-kV direct-current line carries electricity produced in Baie-James to the United States.*



Hydro-Québec has long subscribed to the principles of sustainable development. In fact, our first environment specialists were hired 40 years ago when we established our environment unit. Hydro-Québec's vision for sustainability goes well beyond issues of environmental management. It also reflects our great willingness to give stakeholders an opportunity to express their expectations and concerns, as well as our commitment to ensuring the company's economic viability while contributing to Québec's economic vitality. Each project taken on by Hydro-Québec must be profitable, environmentally acceptable and favorably received by local communities.

ABOUT THIS REPORT

Published in May 2011, the *Sustainability Report 2010* is the ninth such report produced by Hydro-Québec. It is designed to describe our environmental, social and economic performance with respect to our greatest challenges.

RELEVANCE

The following is a list of initiatives taken by Hydro-Québec over the past few years, in collaboration with our stakeholders, to determine the relevance of the issues we address in our Sustainability Report.

- We held an expert panel on accountability in the field of sustainability (academics, investors and independent organizations).
- We organized focus groups made up of representatives of the general public and company employees.
- We conducted meetings with groups and individuals to learn their expectations regarding the Sustainability Report (groups representing Québec farmers and municipalities such as the Union des producteurs agricoles and Fédération Québécoise des Municipalités, employees, etc.).
- We presented the Sustainability Report to experts, who provided recommendations.
- We provided the employees working on the Sustainability Report with training on the Global Reporting Initiative's guidelines on content and quality.

SCOPE

The *Sustainability Report 2010* presents the issues and impacts of Hydro-Québec's activities in Québec throughout 2010. Reports from the four previous years are available on the company's Web site.
www.hydroquebec.com/publications/en/enviro_performance

NEW FEATURES

With a view toward continuous improvement, the *Sustainability Report 2010* includes the following new features:

- Summary of the main sustainability achievements of each Hydro-Québec division or group. (p. 4–5)
- Net greenhouse gas (GHG) emissions from reservoirs. (p. 11)
- First summary of GHG emissions related to the company's activities. (p. 21)
- Hydro-Québec is a new member of LBG Canada (London Benchmarking Group Canada), an organization that provides criteria for evaluating and measuring the performance of member companies' community investment portfolios. LBG's logo is used on pages 12, 30, 32 and 37 of this report, confirming the value of our community investments.

COMMUNICATION TOOLS

To reach the largest possible number of stakeholders, Hydro-Québec employs various tools for communicating and reporting on its sustainability performance. The main tools used are the following:

- *Sustainability Report 2010*
  www.hydroquebec.com/publications/en/enviro_performance
- A Web site on sustainable development containing further details
  www.hydroquebec.com/sustainable-development
- A summary sheet presenting 2010 sustainability highlights
  www.hydroquebec.com/publications/en/enviro_performance
- *Sustainable Development Action Plan 2009–2013*
  www.hydroquebec.com/publications/en/sd_action_plan
- A section of the *Annual Report 2010* dedicated to sustainability
  www.hydroquebec.com/publications/en/annual_report

DATA ATTESTATION

Some of the quantitative data were examined by Ernst & Young LLP. These facts and figures are identified by the symbol ✓; an attestation is supplied on page 45.

SUSTAINABLE DEVELOPMENT ACTION PLAN 2009–2013

The elements which contribute to achieving the Action Plan's targets are identified by a number ❶ referring to one of the Plan's actions, presented on page 9.

GRI GUIDELINES

This report draws on the guidelines of the Global Reporting Initiative (GRI) and its Electric Utility Sector Supplement. These guidelines ensure the credibility and quality of sustainability reporting. The GRI has checked that the report complies with application level B of its six-level guidelines. To learn more, readers can consult the partial GRI index on page 42 of this report or the complete index on Hydro-Québec's Web site.
www.hydroquebec.com/sustainable-development/gri

MESSAGE FROM THE PRESIDENT AND CHIEF EXECUTIVE OFFICER

Hydro-Québec recorded net income of $2,515 million in 2010—exceeding the projections in the *Strategic Plan 2009–2013* despite difficult business conditions marked by low runoff, which meant a considerable reduction in exports. The dividend paid to our shareholder, the Québec government, will total $1,886 million. Tight control over our operating expenses and greater than expected industrial demand in Québec allowed us to keep up a high level of profitability while maintaining some of the lowest rates in North America.

In the area of energy conservation, the economic slowdown in recent years held back business customers' participation in our energy efficiency programs. By the end of 2010, we had achieved recurring annual savings of 5.3 TWh. To reach our target of 11 TWh by 2015, we reviewed our programs and our procedures for interacting with these customers.

We are pursuing the development of a number of renewables. Our hydroelectric projects currently under way, totaling nearly 2,500 MW, made steady progress and our investments in generation amounted to $1.9 billion.

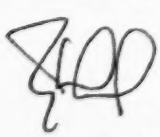
The U.S. National Association of Regulatory Utility Commissioners recognized hydropower as a clean, renewable energy source in 2010.

By the end of the year, the output from nine wind farms with a total capacity of 659 MW had been integrated into the grid. In addition, we accepted 12 bids for the purchase of wind power from independent producers, which will boost installed wind capacity to 3,500 MW by 2015. New technologies applied to renewables could help us tap some of Québec's hydropower potential that has yet to be developed. For example, we joined with a partner to deploy two hydrokinetic turbine prototypes in the Saint-Laurent, close to Montréal. Hydrokinetic power could be an attractive option for some off-grid systems in Nunavik that are now supplied by thermal generating facilities.

By conducting research and prospective analysis, Hydro-Québec is preparing for the long-term effects of climate change on electricity supply and demand. On the supply side, the Ouranos consortium, of which we are a founding member, estimates that climate change could bring about a 15% increase by 2050 in natural inflows in our reservoirs, most of which are located in northern Québec. As for demand, Ouranos predicts that heating requirements will decrease but air-conditioning needs will increase.

We are also convinced that the effort to stem greenhouse gas emissions will encourage the development of electric transportation. Hydro-Québec is actively involved in the field of electric mobility and is taking part in battery and powertrain R&D, and in testing electric vehicles under real world conditions, developing charging infrastructure and financing studies on electrification of public transit.

I am grateful to all our employees for their steadfast, heartfelt commitment to sustainability.



Thierry Vandal
President and Chief Executive Officer

Stimulating Challenges

SUSTAINABILITY HIGHLIGHTS BY ACTIVITY SECTOR

Generation

FACTS AND FIGURES

3,704 employees, including 91% governed by an environmental management system

64 generating facilities connected to the grid, including 59 hydropower stations (38 run-of-river)

26 large reservoirs

571 dams and control structures

Revenue: $6.5 billion

Net income: $1.6 billion

HIGHLIGHTS

› We measured net greenhouse gas (GHG) emissions from Eastmain 1 reservoir, and concluded that a hydroelectric generating station located in a boreal region is one of the lowest-emitting generation options. In Québec, average GHG emissions from hydropower are comparable to those from wind power.

› Hydro-Québec's electricity exports avoided the emission of 9.05 Mt of CO_2.

› Over 79,300 eels migrated through the two fish passes at Beauharnois generating station, the second-highest number observed since 1994.

› Hydro-Québec paid $83 million to procure goods and services from Aboriginal companies, organizations and independent workers.

Transmission

FACTS AND FIGURES

3,375 employees, all governed by an environmental management system

33,453 km of lines

514 substations

167,427 ha of line rights-of-way to be maintained

Numerous interconnections with our neighbors in Canada and the United States

Revenue: $3.1 billion

Net income: $447 million

HIGHLIGHTS

› Hydro-Québec contributed $5.9 million to communities affected by its new transmission projects, for 32 initiatives under the Integrated Enhancement Program.

› General environment-related design criteria were established to ensure that environmental assessments for system expansion projects are conducted carefully and with consistent quality.

› Internal environmental assessments for substation projects will systematically apply a computer program that contains over 30 years of mitigation measures used in various projects.

› An inventory of 41 transmission substations was compiled, in conjunction with the Université de Montréal's Canada Research Chair on Built Heritage, to determine their heritage value.

Distribution and customer service

FACTS AND FIGURES

7,687 employees, all governed by an environmental management system

112,089 km of lines[1]

4,011,789 customer accounts in Québec

Revenue: $10.6 billion

Net income: $453 million

HIGHLIGHTS

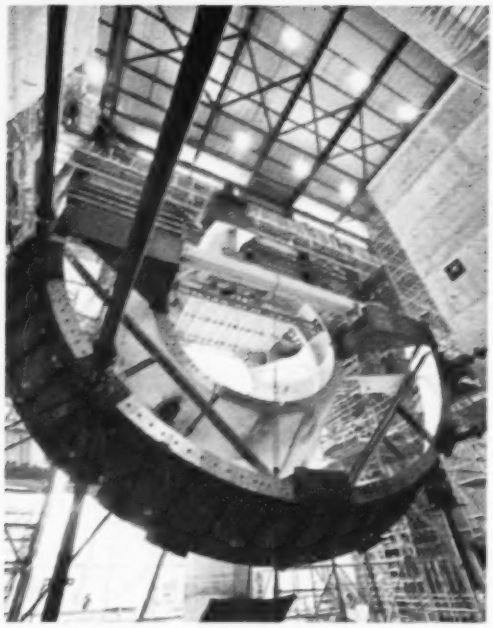
› Energy efficiency: Savings of 989 GWh were achieved in 2010, for a total of 5.3 TWh in recurring annual savings since 2003 thanks to the Energy Efficiency Plan, along with the CAIVAR project and the programs offered by Québec's Agence de l'efficacité énergétique.

› We selected 12 bids totaling 291.4 MW in response to the call for wind power generated in Québec: 1 bid in connection with the block for Aboriginal projects (24 MW) and 11 bids (267.4 MW) in connection with the block for community projects.

› We selected 13 projects totaling 149.7 MW under the power purchase program for 150 MW produced by hydroelectric facilities rated 50 MW or less.

› The measures taken by Hydro-Québec to conserve biodiversity along its distribution lines were recognized in a publication of biodiversity best practices by Canadian companies.

1. Includes off-grid systems but excludes private systems, lines under construction and 44-kV lines (transmission).



◄◄◄ *The 315-kV line that runs across the Saguenay, close to the historic site of Sacré-Cœur located on a rocky promontory.*
◄◄ *Interior of Rapides-des-Quinze generating station in Abitibi-Témiscamingue.*

◄ *Sarcelle powerhouse. Stay ring and lower part of the sealing ring of a bulb-type unit.*
▼ *Installation of a capacitor bank as part of the Addition 1,000 Mvar project.*

Construction

FACTS AND FIGURES

1,838 employees, including 53% governed by an environmental management system

2 major projects under construction for a capacity of 2,468 MW and a total investment of $11.5 billion

Hydroelectric projects: 3,944 work site jobs for contractors

Volume of activity: $2.6 billion

HIGHLIGHTS

› Romaine complex: We continued construction of Route de la Romaine, which already provides access to the Romaine-2 jobsite.

› Eastmain-1-A/Sarcelle/Rupert project: We finished building the eight hydraulic structures on the reduced flow section of the Rupert intended to protect plant and wildlife habitats, maintain navigation and land use, and preserve the landscape.

› 315-kV Chénier–Outaouais line: A new, reduced footprint tower was designed to lessen the impact of tower siting on farmland.

› Rivière-au-Renard substation: To avoid encroaching on adjacent farmland when this substation was being expanded, a retaining wall was seeded and other planting was done to promote better integration into the landscape.

Technology

FACTS AND FIGURES

2,793 employees, including 95% governed by an environmental management system

Activities: R&D, telecommunications and IT

Extensive private telecommunications network with 835 points of presence

Annual budget allocated to Hydro-Québec's research institute: $100 million

HIGHLIGHTS

› Electrification of ground transportation: Agreements were reached and test programs were carried out with automakers and other Québec partners.

› Spectacular progress was achieved with batteries: increased energy and power, reduced charging time and longer useful life.

› Hydro-Québec's subsidiary TM4 delivered some 100 electric powertrains to Indian automaker Tata Motors.

› Our energy technologies laboratory (LTE) built two typical Québec homes with electric heating to develop and test comprehensive energy efficiency solutions.

Management and support of our business units

FACTS AND FIGURES

3,756 employees, including 46% governed by an environmental management system

Activities: governance, accounting and control, procurement, building management, transportation services, human resources, communications, community relations, industrial security, etc.

HIGHLIGHTS

› We hosted the 21st World Energy Congress. The event, which took place in Montreal, brought together more than 7,000 participants and 300 speakers from 130 countries to address the topic *Responding Now to Global Challenges – Energy in Transition for a Living Planet*.

› We offered 403 internships to university undergraduate and graduate students and 54 internships to college-level students.

› A total of $9.8 million was allotted to universities in contributions, commitments, chair endowments and research contracts.

› Hydro-Québec earned BOMA BEST certification for 15 administrative buildings.

› One of our vehicle repair shops was awarded Silver Level CLÉ VERTE environmental certification.

› The Fondation Hydro-Québec pour l'environnement allocated $1 million to 15 projects in nine of Québec's administrative regions.

MESSAGE FROM THE EXECUTIVE VICE PRESIDENT – CORPORATE AFFAIRS AND SECRETARY GENERAL

Governance and Sustainability

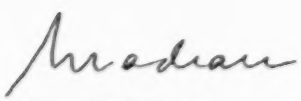
Hydro-Québec's system of governance aims to make sustainability principles an integral part of the company's day-to-day operations and its development projects. For over 10 years, the activities of most of our employees have been governed by ISO 14001–certified environmental management systems. To date, the certification covers the activities of close to 20,000 employees. In 2010, we set up new internal guidelines for maintaining the environmental management systems and establishing a company-wide workplace health and safety management system. These systems, supported by suitable control mechanisms, enable Hydro-Québec to carry out its activities with all the necessary rigor.

Our system of governance also includes an external reporting process that involves a considerable data collection, analysis and verification effort, leading ultimately to the annual publication of the Sustainability Report. The report is then submitted to the Board of Directors for examination.

Hydro-Québec is one of the first Québec companies to have published an annual report on sustainability. From the very beginning, the company has sought to improve its performance reporting process by presenting its report every year to experts who provide recommendations on the measures required to continue integrating the principles of the Global Reporting Initiative guidelines, such as stakeholder involvement, information relevance and maintaining a balance in the way each topic is addressed.

The *Sustainability Report 2010* also describes the progress made in terms of Hydro-Québec's Sustainable Development Action Plan, in compliance with Québec's Government Sustainable Development Strategy 2008–2013. The Action Plan sets up measurable targets for 2013 relating to 10 actions which will impact the environmental, social and economic aspects of sustainability.

I wish to thank all those who contributed to preparing this Sustainability Report, as I know the work involved requires great care and attention to detail. I hope the Report will meet the expectations of our stakeholders.



Marie-José Nadeau
Executive Vice President – Corporate Affairs and Secretary General

SUSTAINABILITY GOVERNANCE

The policies approved by the Board of Directors reflect the company's commitments and guide its actions. The principles stated in these policies are defined by guidelines, codes of conduct and other mechanisms, such as environmental (ISO 14001), quality (ISO 9001) and workplace health and safety management systems. Sustainability governance calls on the accountability of all the company's personnel.

The Board of Directors is made up of 5 women and 11 men, from various regions and activity sectors, who are appointed by the Québec government and who administer the company's business in accordance with the *Hydro-Québec Act*, the *Companies Act* and applicable regulations. The Board also approves the main cases submitted to the Régie de l'énergie. The Régie's responsibilities include setting or amending the rates and conditions under which electricity is transmitted and distributed, and monitoring Hydro-Québec's transmission and distribution operations to guarantee an adequate supply for consumers.

HYDRO-QUÉBEC HONORED

In 2010, Hydro-Québec was named Utility of the Year by the magazine *Electric Light & Power*. This award was given in recognition of the company's environmental record (particularly its contribution to the fight against greenhouse gas emissions), its outstanding profitability combined with affordable rates, as well as its initiatives in terms of energy efficiency and technological innovation.

Board members work within seven committees, including the Governance and Ethics Committee whose role is to develop:

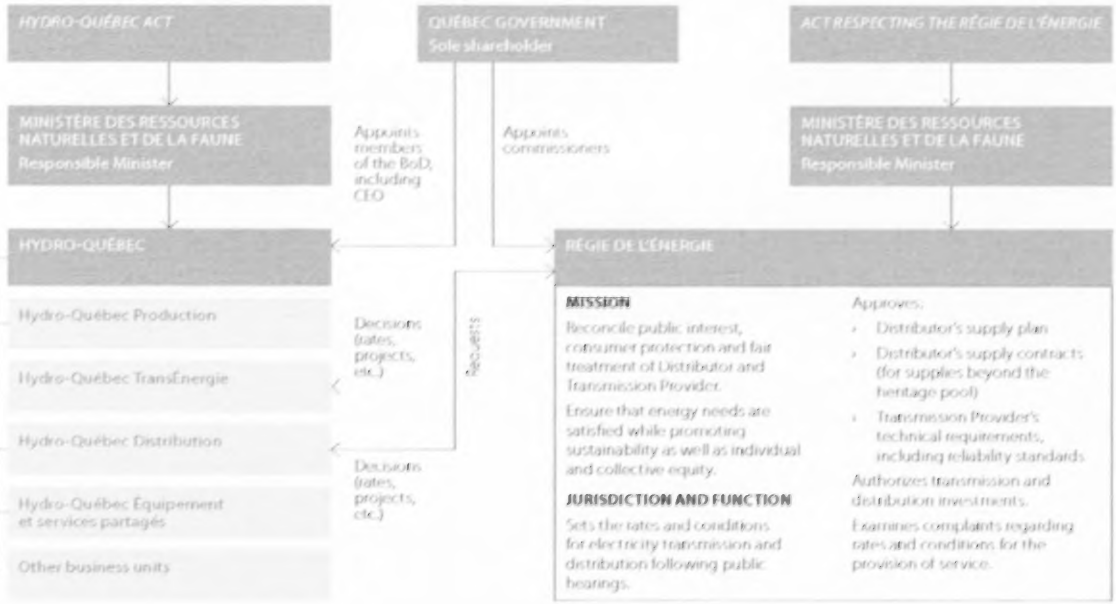
- the rules of governance and codes of ethics applicable to directors, senior executives appointed by the company, and employees of Hydro-Québec and its wholly owned subsidiaries;
- the expertise and experience profiles used in appointing Board members;
- the criteria for assessing the performance of directors and the Board;
- the induction and training program for directors as well as measures to evaluate the company's efficiency and performance.

The Committee also makes recommendations to the Board regarding the company's policies and Strategic Plan as well as the composition and role of the different Board committees.

Elements related to sustainable development are addressed by the Environment and Public Affairs Committee. This Committee's role is to provide opinions and make recommendations to the Board of Directors on all matters related to:

- environmental management and compliance;
- integration of sustainable development principles;
- environmental incident reports and related claims, opinions, investigations and legal proceedings;
- public health and safety;
- community relations;
- social responsibility, contribution to the community and public image.

Electricity Regulation in Québec


HYDRO-QUÉBEC ACT
QUÉBEC GOVERNMENT
Sole shareholder
ACT RESPECTING THE RÉGIE DE L'ÉNERGIE
MINISTÈRE DES RESSOURCES NATURELLES ET DE LA FAUNE
Responsible Minister
Appoints members of the BoD, including CEO
Appoints commissioners
MINISTÈRE DES RESSOURCES NATURELLES ET DE LA FAUNE
Responsible Minister
HYDRO-QUÉBEC
Hydro-Québec Production
Hydro-Québec TransÉnergie
Hydro-Québec Distribution
Hydro-Québec Équipement et services partagés
Other business units
Decisions (rates, projects, etc.)
Decisions (rates, projects, etc.)
Recourses
RÉGIE DE L'ÉNERGIE
MISSION
Reconcile public interest, consumer protection and fair treatment of Distributor and Transmission Provider.
Ensure that energy needs are satisfied while promoting sustainability as well as individual and collective equity.
JURISDICTION AND FUNCTION
Sets the rates and conditions for electricity transmission and distribution following public hearings.
Approves:
Distributor's supply plan
Distributor's supply contracts (for supplies beyond the heritage pool)
Transmission Provider's technical requirements, including reliability standards
Authorizes transmission and distribution investments.
Examines complaints regarding rates and conditions for the provision of service.

2010 HIGHLIGHTS

- The company's policies were reviewed by the Board of Directors as part of the annual performance reporting process.
- The Environment and Public Affairs Committee and the Board of Directors received and analyzed various reports on sustainability, the legal aspects of issues related to the environment, the Fondation Hydro-Québec pour l'environnement, the activities of liaison committees (with the Fédération Québécoise des Municipalités, Union des producteurs agricoles (Québec farm producers' union) and others), etc.
- While overseeing application of the governance measures in the *Hydro-Québec Act*, the Governance and Ethics Committee assessed the performance of the Board of Directors and reviewed the mandates of the Board committees and the expertise and experience profiles of the Board members. It also made recommendations concerning appointments of senior executives for Hydro-Québec's wholly owned subsidiaries, as well as directors and external auditors for the company's first tier wholly owned subsidiaries. In addition, it examined the annual reviews of several company policies.

FOR MORE INFORMATION ON HYDRO-QUÉBEC GOVERNANCE:

- Board members
- Access to information
- Code of ethics and rules of professional conduct
- Code of conduct
- Policies
- Corporate governance bylaw
- Bylaw respecting the functions and powers of company officers

www.hydroquebec.com/profile

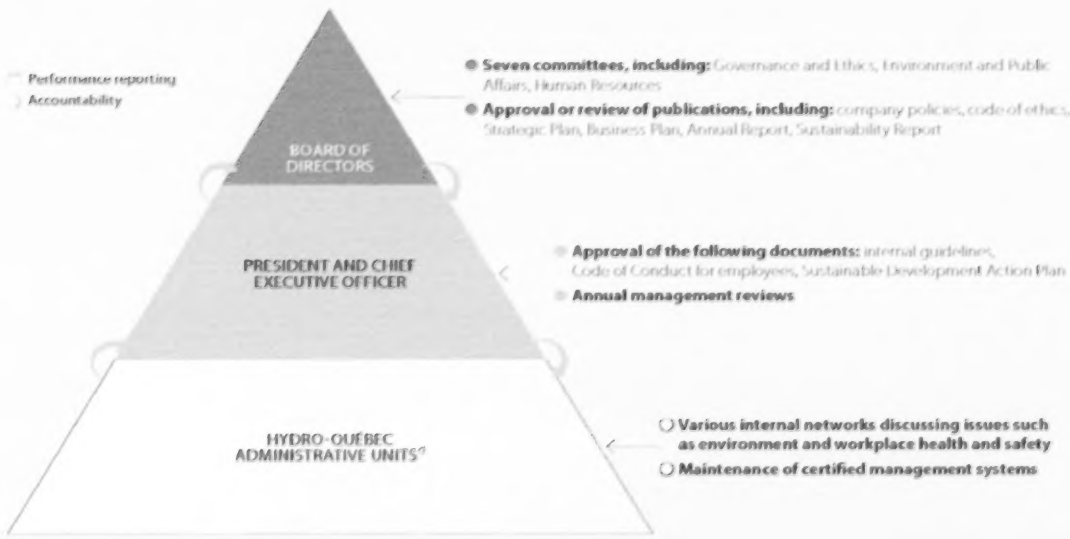
ACCESS TO INFORMATION AND PROTECTION OF PERSONAL INFORMATION

Hydro-Québec carefully protects the personal information of its employees, customers and suppliers, while fulfilling its obligations toward the public in terms of access to information. It takes all the necessary measures to comply with the *Act respecting access to documents held by public bodies and the Protection of personal information* (Access Act).

2010 HIGHLIGHTS

- Hydro-Québec received 387 requests for access, which were all processed within the prescribed time limit. Only 55 of these requests were denied due to security issues, opposition by a third party to the disclosure of information belonging to it, or the commercial nature of the documents requested.
- We did not receive any substantiated complaints regarding breaches of customer privacy or losses of customer data.
- Since September, the Hydro-Québec Web site has invited people with disabilities to get in touch with the company's employees in charge of access to documents to find out about the accommodations that can be made to provide documents further to a request under the Access Act.

Main sustainability governance activities


Performance reporting
Accountability
BOARD OF DIRECTORS
Seven committees, including: Governance and Ethics, Environment and Public Affairs, Human Resources
Approval or review of publications, including: company policies, code of ethics, Strategic Plan, Business Plan, Annual Report, Sustainability Report
PRESIDENT AND CHIEF EXECUTIVE OFFICER
Approval of the following documents: internal guidelines, Code of Conduct for employees, Sustainable Development Action Plan
Annual management reviews
HYDRO-QUÉBEC ADMINISTRATIVE UNITS[a]
Various internal networks discussing issues such as environment and workplace health and safety
Maintenance of certified management systems

a) *www.hydroquebec.com/publications/en/organization_chart/haute_direction-en.pdf*

SUSTAINABLE DEVELOPMENT ACTION PLAN 2009–2013

Published in March 2009, the *Sustainable Development Action Plan 2009-2013* expresses Hydro-Québec's commitment to Québec's Government Sustainable Development Strategy 2008-2013. Every year, in the Sustainability Report, Hydro-Québec provides a formal account of the progress made on the 10 actions that form the Plan.

www.hydroquebec.com/publications/en/sd_action_plan

Action	Indicator	Results at December 31, 2010			Target 2011
		Target	Achieved to date	Results	
1 Build hydropower projects and contribute to the development of wind power.	Capacity and energy available	138 MW[a]	138 MW	Romaine complex and Eastmain-1-A/Sarcelle/Rupert projects (p. 17-18) Bids selected – call for wind power (p. 14) Projects selected – purchase of power produced by hydroelectric facilities rated 50 MW or less (p. 14) Simulation of wind farm behavior (p. 39) Goémon–Mont-Louis–Carleton line (p. 19)	750 MW[a]
2 Increase the capacity of existing hydroelectric generating stations.	Gains in peak capacity	54 MW[a]	57 MW	Studies identifying potential capacity gains (p. 14) Ongoing Numerical Turbine Simulation (SAMH) project (p. 39)	54 MW[a]
3 Step up energy efficiency initiatives.	Recurring energy savings	5.0 TWh[a]	5.3 TWh	Energy Efficiency Plan (p. 11-14) CAIVAR project (p. 12) Corporate energy efficiency (p. 14)	not available
4 Continue to help low-income customers.	Number of arrangements with low-income customers[b]	23,800	41,161	Results (p. 35) Training on poverty and the prejudices it engenders (p. 35)	24,000
5 Reduce transport-related GHG emissions.	Atmospheric emissions from the vehicle fleet	53,900 t CO_2 eq.	55,412 t CO_2 eq.	Emissions from our vehicle fleet (p. 20) Vehicle replacement (p. 21) Allégo program (p. 21) BIXI multiuser keys (p. 21)	53,300 t CO_2 eq.
6 Promote reduction at source, reuse and recycling.	Number of at-source reduction or reclamation programs introduced or optimized	4[a]	7	Improvements in multi-material management program (p. 26) Porcelain insulator and plastic packaging recovery program (p. 26)	6[a]
7 Establish specifications for sustainable procurement.	Number of product purchasing guides that include sustainable specifications	2[a]	3	Purchasing guide for printing and copying services (p. 26)	3[a]
8 Inform and educate employees regarding sustainability and the company's approach. Help employees learn to apply sustainability principles to their daily activities.	Percentage of employees educated	60%	56%	Results (p. 37) Environment Month (p. 37)	80%
	Percentage of employees having sufficient knowledge about sustainability	25%[a]	29%	Results (p. 36) Self-guided training on sustainability (p. 37)	30%[a]
9 Improve vegetation control methods on the distribution system to better protect biodiversity.	Percentage of vegetation control operations per year with integrated measures for promoting biodiversity	82%	82%	Results (p. 23) Biodiversity protection measures (p. 23) Recognition in a publication of biodiversity best practices by Canadian companies (p. 24)	85%
10 Organize sustainable events and promote responsible management of events sponsored by Hydro-Québec.	Average number of contributing measures implemented among the 25 measures selected for the sustainable management of events	10/25	12.9/25	Results (p. 26)	12/25

a) Cumulative since the Action Plan came into effect. *b)* Including long-term arrangements.

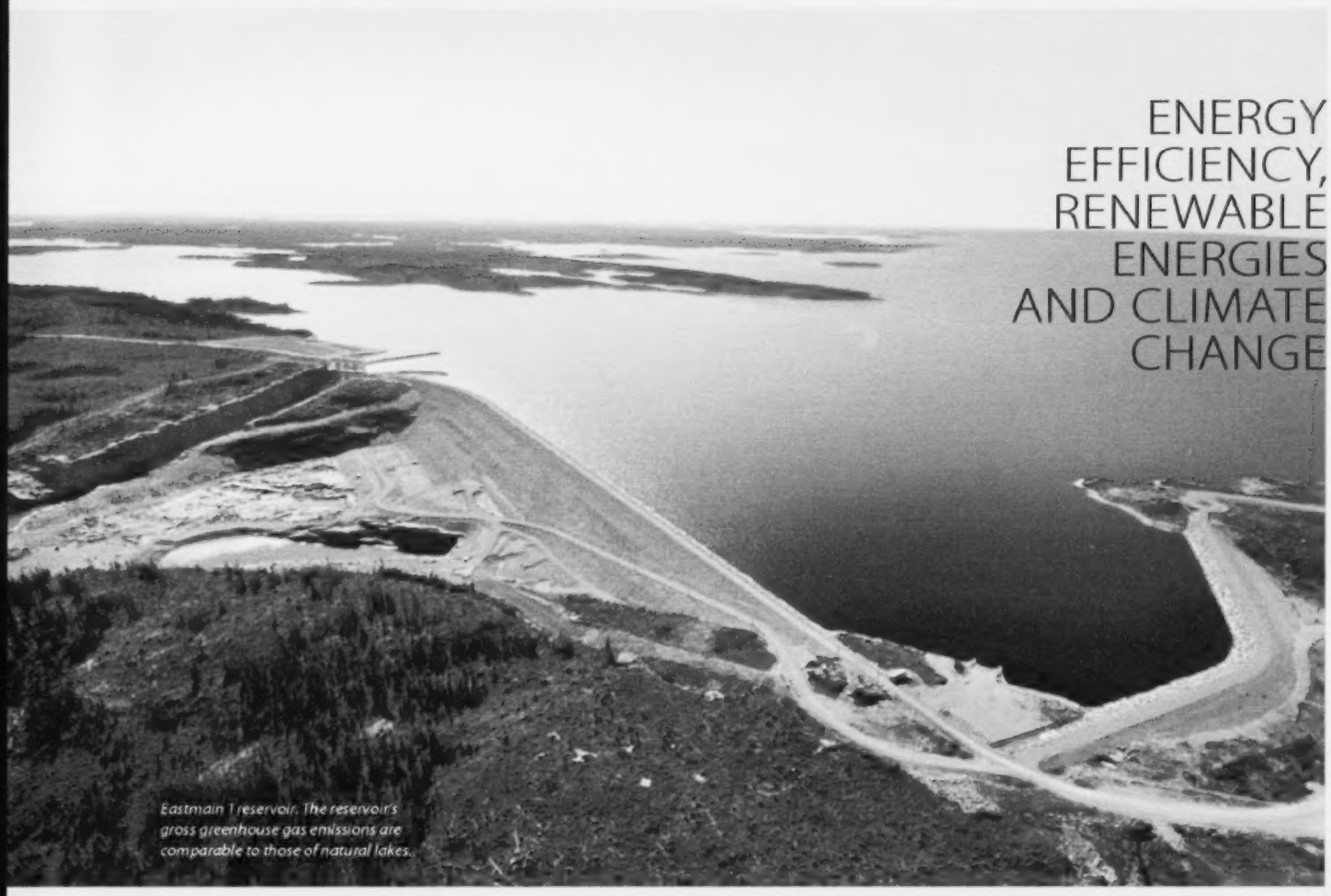
DIALOGUE WITH STAKEHOLDERS

Hydro Québec engages in a continuing dialogue with all stakeholders in the company's activities. This dialogue is essential for maintaining profitable relations with stakeholders, obtaining their support for important activities and even reconciling diverging interests.

In 2010, to promote discussion on stakeholder engagement, Hydro Québec hosted a meeting with Canadian Business for Social Responsibility and some of CBSR's other member companies.

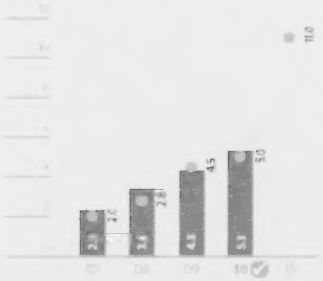
Stakeholders	Sustainability issues	Examples of means used	2010 results
Customers	• Services tailored to low-income customers and others with payment difficulties • Increasing energy savings • Customer satisfaction	• Working group with local associations • Energy efficiency partnerships • Table of customer expectations • Survey of customer satisfaction • Mechanism for handling complaints and claims	• Number of payment arrangements with low-income customers (p. 35) • Energy Efficiency Plan (p. 11–14) • Overall customer satisfaction index (p. 34) • Complaints and claims (p. 34)
Educational institutions	• Development of a skilled workforce • Education on key issues related to electricity	• Support for universities • Technological partnerships • Conferences and educational resource kits • Exhibitions and conferences	• Research on GHGs (p. 11, 16) • Support for universities (p. 41) • Funding of IHPE (p. 37) • Youth awareness (p. 32–33) • Exhibitions and conferences (p. 33)
Employees	• Sustainability principles applied to daily activities • Health and safety • Sustainability awareness and training • Competent succession	• Sustainability training • Awareness of sustainability principles • Workplace health and safety committees • Succession plan • Orientation program for new employees	• Number of employees with sustainability training (p. 36) • Percentage of employees aware of sustainability (p. 37) • Environment Month (p. 37) • Work-related accident frequency (p. 37) • New employee satisfaction index (p. 37)
General public	• Education on key issues related to electricity • Public satisfaction	• Exhibitions and conferences • Awareness campaigns • Web site and toll-free line (1 800 363-7443)	• Exhibitions and conferences (p. 33) • Overall public satisfaction index (p. 27)
Governments	• Information sharing • Contribution to Québec's Government Sustainable Development Strategy	• Partnerships and participation in joint committees	• Sustainable Development Action Plan (p. 9) • Biodiversity (p. 24–25) • Protected areas (p. 22)
Investors	• Presentation of the competitive advantage offered by hydropower in the context of climate change	• Periodic meetings with investors on results and risk management • Dedicated Web site for investor relations • Financial Profile	• Financial results (p. 38, 41)
Local and Aboriginal communities	• Acceptability of projects • Integration of facilities into the environment • Respect for local values and cultures • Public health and safety	• Teams in charge of community and Aboriginal relations • Partnering arrangements • Liaison committees with municipal associations • Support for local initiatives in connection with projects and other activities • Execution of studies and dissemination of information on public health and safety	• Public participation (p. 28) • Partnering agreements (p. 29) • ENERGY WISE Home Diagnostic (p. 12) • Integrated Enhancement Program (p. 30) • Studies on electric and magnetic fields (p. 31) • Television campaigns on electrical safety (p. 31)
Non-governmental organizations	• Establishment of mutually beneficial relationships	• Liaison committee with the Union des producteurs agricoles (Québec farm producers' union) • Cooperation with consumer associations • Various partnerships • Donations and sponsorships	• Local groups (p. 35) • Partnerships in the area of electrification of ground transportation (p. 39–40) • Donations and sponsorships (p. 32)
Suppliers	• Introduction of sustainable specifications in procurement policies • Maximization of economic spinoffs	• Partnerships • Dedicated Web site for suppliers • Economic spinoffs committees	• Purchasing guide for printing and copying services (p. 26) • International partnerships (p. 39–40) • Procurement within Québec (p. 40) • Economic spinoffs committees (p. 40)
Unions	• Harmonious labor relations	• Workplace health and safety committees • Joint committees	• Renewal of another collective agreement; eight agreements are now in effect until 2013 or 2014 (p. 37)

ENERGY EFFICIENCY, RENEWABLE ENERGIES AND CLIMATE CHANGE



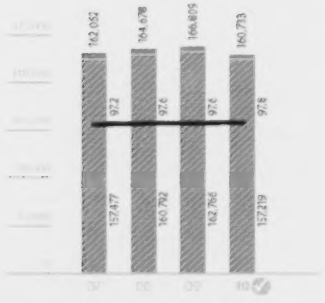
Eastmain 1 reservoir. The reservoir's gross greenhouse gas emissions are comparable to those of natural lakes.

RECURRING ENERGY SAVINGS (TWh)



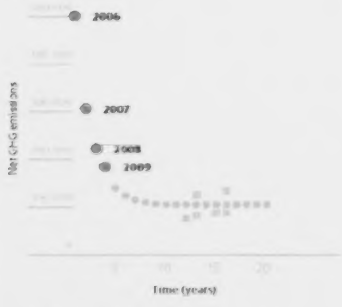
■ Recurring energy savings
● Target

NET HYDROPOWER GENERATED (GWh)



■ Total energy generated
▨ Hydropower generated
▬ Hydropower/total energy generated (%)

NET EMISSIONS FROM RESERVOIRS ($t\ CO_2e\ Q$)



● Measured at Eastmain 1 reservoir
▫ Measured at various reservoirs in Québec
▫ Projections based on Eastmain 1 model

By the end of 2010, the Energy Efficiency Plan, CATVAR project and programs of the Agence de l'efficacité énergétique had yielded 5.3 TWh in electricity savings—48% of the 11 TWh target set for 2015.

In 2010, 97.8% of our energy output was generated by hydropower, 2.0% by nuclear power and 0.1% by thermal power. The drop in hydropower generation is due to the decrease in natural inflows, which were among the lowest they have been in the past 10 years.

Net GHG emissions from Eastmain 1 increased following impoundment and then quickly decreased. In Quebec, average GHG emissions from hydropower are comparable to those from wind power, and the level of gross emissions from reservoirs is similar to that of natural lakes.

MANAGING DEMAND

In the next 10 years, Québec's electricity needs will rise by an average of just under 1% per year. This increase is significantly lower than the global growth in demand forecasted by the International Energy Agency (2.2% per year).[1]

Electricity Supply Plan 2011–2020

Hydro-Québec's *Electricity Supply Plan 2011–2020* includes various measures for meeting electricity demand. For example, bilateral agreements can be used to handle short-term needs (ranging from one to a few days).

2010 HIGHLIGHTS

- Energy needs: 185 TWh.
- Capacity needs at 2010–2011 winter peak: 37,717 MW.
- Bilateral agreements: 350 GWh purchased, 33 GWh sold and 298 GWh exchanged between the Distributor and the Generator.
- Nine new long-term supply contracts were signed: six for the purchase of electricity produced by new biomass cogeneration facilities and three for electricity produced by hydroelectric facilities rated 50 MW or less.

Energy efficiency

The Québec government's energy strategy targets electricity savings of 11 TWh by 2015. This objective will be achieved through the programs of the Agence de l'efficacité énergétique (1 TWh), the CAIVAR project (2 TWh) and the Energy Efficiency Plan (8 TWh).

After two years of difficult economic conditions which limited customers' participation in some of our programs, Hydro-Québec now plans to work with commercial and institutional customers to speed up their implementation of energy efficiency measures. The company has already submitted a proposal for a new set of business customer programs to the Régie de l'énergie. While Hydro-Québec remains responsible for developing and updating these programs, we rely heavily on business partnerships to complete as many of these projects as possible.

2010 HIGHLIGHTS

③ *CAIVAR project*

- To date, voltage setpoints have been revised at 124 satellite substations. Voltage regulation control was installed at Pierre-Boucher substation, the first substation to use this technology.

1. www.worldenergyoutlook.org/docs/weo2010/WEO2010_es_english.pdf

HOW WILL CLIMATE CHANGE AFFECT ELECTRICITY DEMAND IN QUÉBEC?

According to the median scenario determined by the Ouranos consortium on regional climatology and adaptation to climate change, global warming could lead to a decrease in the demand for heating, which will be partially offset by rising air-conditioning needs. As for winter peak power demand, it will drop significantly, since temperatures below -25°C will nearly disappear.

www.ouranos.ca

③ *Residential customers*

- RECYC-FRIGO Environnement™ program: Over 104,500 energy-guzzling refrigerators and freezers were collected and recycled, for a total of more than 290,600 appliances since the launch of the program in 2008. In addition to contributing to preserving the ozone layer, the program had generated 207 GWh in energy savings by the end of 2010, enough to power approximately 11,700 households for a year.

www.recyc-frigo.com/en

- ENERGY WISE Home Diagnostic: Approximately 1.2 million personalized recommendation reports have been produced since the program was introduced in 2004, for potential savings of 368 GWh per year. Under the community-based component of the program, which ended in November 2010, 973 communities received $10.4 million from Hydro-Québec to carry out local and regional projects related to the environment, culture, sports, recreation, etc.[2]

www.hydroquebec.com/residential/diagnostic

- Energy Efficiency Retrofit Program for Low-Income Households: Savings of 13.2 GWh were achieved, exceeding our objective of 9.8 GWh and bringing total savings since the launch of the program in 2006 to 62 GWh.

2. LBG Canada has confirmed that, according to its criteria, Hydro-Québec's contribution in 2010 constitutes a community investment.

Energy Efficiency Plan (GWh)

	TARGET				ACTUAL[a]			
	2007	2008	2009	2010	2007	2008	2009	2010
Energy savings[b]	**661**	**745**	**985**	**766**	**900**	**1,061**	**910**	**920**
Residential customers	301	352	485	362	359	414	528	408
Business customers	191	222	272	240	197	222	256	203
Large power customers	170	171	229	164	345	425	127	309

a) Actual results include the programs of the Agence de l'efficacité énergétique. May have been adjusted following program evaluation.

b) Overall total and sum of subtotals may differ due to rounding.

- Launch of the Solar Pool Cover program: This program was launched after studies demonstrated that solar covers reduce water heating needs, use of water maintenance products and water losses through evaporation.
www.hydroquebec.com/residential/toilesolaire/

- Launch of the Electronic Thermostats for Rental Properties program: This program allows rental property owners to replace their properties' conventional thermostats with new, electronic ones for $10 per unit. More than 94,700 thermostats have been installed—out of a target of close to 440,000 by June 2013—and over 90% of the old thermostats have been recycled.
www.changemythermostats.com

- Hydro Québec received two ENERGY STAR® awards from Natural Resources Canada: Utility of the Year – Provincial and Promotional Campaign of the Year. Over the past six years, we have received eight ENERGY STAR awards.

- ENERGY STAR qualified televisions: In addition to our initiatives with consumers, we offered retailers a financial incentive of $10 for every television sold conforming to the highest ENERGY STAR specifications. We also trained salespeople and distributed promotional material.
www.hydroquebec.com/residential/televiseurs

- In collaboration with a Québec manufacturer, we developed and marketed a three-element water heater which reduces power demand at peak periods. The sale of 152,000 units over five years will lead to a 15.3 MW decrease in peak power demand.
www.hydroquebec.com/residential/chauffe-eau-trois-elements

- We provided financial assistance for the installation of 479 residential geothermal systems, which generated annual savings of 3.8 GWh, exceeding our target of 1.6 GWh.
www.hydroquebec.com/residential/geothermie

Business and large-power customers

- Savings of 11 GWh were achieved as a result of rebates offered to farmers when they bought specific heat pads, plate heat exchangers, fans, lighting products, motors and refrigeration systems.

- Under our program of support for small and medium-sized industrial customers, we performed 300 visits, identified 65 GWh of energy savings potential and completed 45 projects (mostly related to lighting).

- Empower Program for Industrial Systems: With 468 registered projects, we posted our best results with this program since 2004. The 349 projects accepted yielded 70.9 GWh in energy savings, a 65% increase from 2009.

- Empower Program for Building Optimization: Despite a 7% increase in the number of registered projects, energy savings generated (82.3 GWh) were 27% lower than in 2009.

- We signed or renewed 670 agreements with retailers, distributors, manufacturers or their agents and consumer associations, designed to help us promote energy efficiency programs.

- Lighting component of the Efficient Products program: Savings of 45.3 GWh were achieved, exceeding the target of 23.0 GWh.
www.hydroquebec.com/produit-efficaces/promo-partenaires
(Available in French only)

- ENERGY WISE Competition of Excellence: The awards honored 56 business customers and partners who distinguished themselves through their exceptional initiatives in energy efficiency.
www.hydroquebec.com/energywise/excellence/prix_remise.html

- Five new members were named to the Energy Savers' Circle. This group now comprises 48 large-power customers that have reduced their electricity consumption by at least 5% or by 50 GWh per year. The Elite category of the Circle, reserved for customers whose energy performance is even more outstanding, obtained its first member.
www.hydroquebec.com/majorcustomers/ecolectrique.html

Energy efficiency programs – Customer categories[a]

	2007	2008	2009	2010
Residential customers (ENERGY WISE Products)				
Electronic thermostats (number)	1,036,115	824,391	722,734	580,685
Pool filter timers (number)	181,774	208,462	147,538	119,933
Household appliances – Washers and refrigerators (number)	152,737	183,787	149,717	8,342[b]
Lighting – Compact fluorescent lightbulbs (number)	3,375,387	1,618,071	1,387,184	783,478
Residential customers (other)				
Home Diagnostic questionnaires (number)	39,450[c]	93,438	151,222	105,800
Recovered energy-guzzling refrigerators and freezers (number)	not applicable	66,493	119,669	104,523
Business customers				
Empower programs (number of projects submitted)	795	752	681	922
Large-power customers				
Industrial Analysis and Demonstration program (number of projects accepted)	22	23	24	21
Industrial Initiatives program (number of projects accepted)	109	82	75	77
Building Initiatives program (number of projects accepted)	51	40	36	1[d]

a) May have been adjusted following program evaluation.

b) Mail-in rebate offers ended in 2009. The 2010 figure represents the number of requests made in 2009 but processed in 2010.

c) Drop due to program overhaul.

d) Drop due mainly to reduced customer interest. The business model is currently under review.

"All the projects we undertake, whether they involve generation or transmission, are carried out with a view to sustainability. A successful project is one that is well integrated into the natural environment and well received by the host community.

It's important to understand the host community's interests and concerns, and to use this understanding to influence and adapt the design. Because every environment is unique, we must often be creative in developing solutions. The environmental, social and technical integration of projects is becoming a separate area of expertise, an area that challenges our teams and requires constant learning.

We've had some great success. The Eastmain-1-A/Sarcelle/Rupert project in Baie-James is a good example of a successful project. We worked with the land users and adopted innovative design methods which allowed us to reduce flooding, maintain navigation on the Rupert and avoid transitional effects on some of the sensitive or valued natural components."

RÉAL LAPORTE
President
Hydro-Québec Équipement et services partagés

HOW WILL CLIMATE CHANGE AFFECT WATER AVAILABILITY?

According to the Ouranos consortium, in Québec, climate change could mean a 1% to 15% increase in natural inflows by 2050. The increase will be greater in the north than in the southwest, and is predicted to be between 10% and 15% in the northwest, depending on the drainage basin, between 7% and 10% for Churchill Falls and the Côte-Nord, and between 1% and 8% in the southwest.

www.ouranos.ca

❸ *Innovation projects*

- Two typical Québec homes with electric heating were built at IREQ's energy technologies laboratory (LTE) to develop and test comprehensive energy efficiency solutions. (Mauricie)
- We carried out projects for improving the energy efficiency of commercial and institutional buildings. One of the mechanisms used involved developing integrated control systems for heating, ventilation, water recovery, etc.

❸ *Energy efficiency of Hydro-Québec's facilities*

- We launched a three-year energy efficiency plan (2010–2012) that targets savings of 22 GWh in our administrative buildings. In 2010, we saved 5.3 GWh through asset sustainment projects, and 3.6 GWh through the optimization of operating methods.
- We added energy-efficient technologies as part of the refurbishment of the following four facilities: Cadillac and Rapide-7 generating stations (Abitibi-Témiscamingue), the Pierre-Radisson complex (Nord-du-Québec) and an administrative building in Baie-Comeau (Côte-Nord).

MANAGING SUPPLY

According to data from the International Energy Agency,[1] renewables accounted for approximately 13% of global energy supply in 2008. In Canada, they represent about 16% of primary energy supply.[2]

Hydro-Québec relies essentially on renewables to meet energy demand. A mere 0.1% of our power is generated through fossil fuels, mainly to supply off-grid systems.

Hydropower

In 2008, hydropower accounted for 16% of global output and more than 60% of the power produced in Canada.[3] Hydro-Québec, which uses water to generate 98% of its output, is the world leader in hydropower production. In addition to being renewable, hydropower is clean energy with very low greenhouse gas emissions.

2010 HIGHLIGHTS

❶ Work continued at the Romaine complex and on the Eastmain-1-A/Sarcelle/Rupert jobsites (see p. 17–18).

❶ We selected 13 projects, totaling 149.7 MW, under the power purchase program for 150 MW produced by hydroelectric facilities rated 50 MW or less. Ten of these projects will be carried out entirely by Aboriginal or other communities, and three will be built in partnership with the private sector.

❷ Studies calculated potential capacity gains of 36 MW at Rocher-de-Grand-Mère generating station (Mauricie) and 1 MW at Hull-2 generating station (Outaouais).

1. www.iea.org/textbase/nppdf/free/2010/key_stats_2010.pdf
2. www.nrcan.gc.ca/eneene/renren/aboapren-eng.php
3. www.erd.fr/docs/2009/004954_SEB6dHydraulique2009B1D8G8B7C.battres.pdf

Wind power

Over the past 10 years, wind power has been the fastest growing energy source worldwide. In Canada, wind power capacity went from under 200 MW in 1997 to over 1,800 MW in 2007.[1]

Hydro-Québec purchases all the output from nine privately owned wind farms with a total installed capacity of 659 MW. As a result of the three tender calls issued since 2003, the company will boost its wind power capacity to over 3,500 MW by 2015. Given the uncertain and intermittent nature of wind generation, the flexibility of hydropower is essential to offset variations in output and allow large quantities of wind power to be integrated into the grid.
www.hydroquebec.com/learning/eolienne/energie-eolienne-quebec-hq-distribution.html

2010 HIGHLIGHTS

- We selected 12 bids (totaling 291.4 MW) in response to a call for wind power generated in Québec: 1 bid (24.0 MW) in connection with the block for Aboriginal projects and 11 bids (267.4 MW) in connection with the block for community projects.
- We continued work to integrate 990 MW of wind power in the Gaspésie and Bas-Saint-Laurent regions, which includes the construction of the Carleton–Mont-Louis–Gros-Morne line.

Solar power

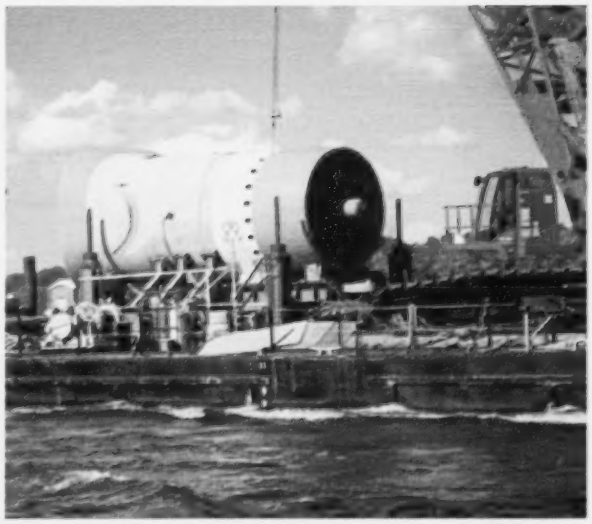
Photovoltaic cells can be used to transform sunshine into electricity. In Québec, however, solar power is not available during winter peak periods (morning and evening), and the costs associated with this technology are not competitive at the moment. Nonetheless, Hydro-Québec is closely monitoring the evolution of solar power which, in the medium term, may experience the same kind of growth wind power has seen in the past few years.

New renewables

Through its research, innovation and demonstration activities, Hydro-Québec participates in advancing technologies linked to various renewable energy sources.

1. www.rncan.gc.ca/energie/renouv/aboapmon-eng.php#hydro

Prototype of a hydrokinetic turbine being installed in the Saint-Laurent, close to Montréal. Hydro-Québec, in conjunction with Groupe RSW, will assess the turbine's efficiency and performance.



Hydrokinetic power

Hydrokinetic power is generated from the kinetic energy of sea or river currents by means of a submerged turbine, with greatest output achieved from turbines submerged in the sea. In Québec, in addition to river currents, the Baie d'Ungava tides look very promising, and could be used to meet the needs of villages currently supplied by generators. Supplying some of Hydro-Québec's off-grid systems with combined hydrokinetic/diesel power could reduce emissions by 49,500 t CO_2 eq. per year.

Salinity gradient power

Salinity gradient power is produced by a turbine driven by the pressure that results when freshwater migrates to saltwater through a semipermeable membrane. The Norwegian company Statkraft is the main proponent developing this line of research which may, in time, be an attractive option for Québec. In 2010, Hydro-Québec's research institute joined forces with Statkraft and the two organizations will continue their research in tandem.

Net electricity generated and purchased by Hydro-Québec (GWh)

	2007	2008	2009	2010
Hydropower generated	157,477	160,792	162,766	157,219
Wind power generated	1.3	0.4	0.0	0.0
Hydropower purchased[a]	34,542	37,068	31,417	32,360
Biomass and waste reclamation power purchased	1,468	1,439	1,319	1,323
Wind power purchased[b]	666	810	1,131	1,419
Total renewables	**194,154**	**200,109**	**196,633**	**192,321**
Total energy generated	162,062	164,678	166,809	160,733
Total energy purchased	46,094	41,925	36,372	43,109
Total energy generated and purchased	**208,156**	**206,603**	**203,181**	**203,842**
Total renewables/Total energy generated and purchased (%)	**93**	**97**	**97**	**94**

a) Includes purchases from Churchill Falls (Labrador) Corporation and independent power producers, including McCormick generating station, in which Hydro-Québec holds a 60% interest.
b) Does not include wind energy purchases for which renewable energy certificates were sold to third parties.

"This remarkable study, which was carried out at Eastmain 1 reservoir and lasted seven years, allowed us to precisely measure carbon exchanges before and after impoundment. It is the first study in the world to quantify GHG emissions in this way. More than 100,000 measurements were recorded on the site of the reservoir and over a 20-km radius. This approach allowed us to acquire a solid multisource database. The measurements showed a marked reduction in emissions two years after impoundment. The reservoir now behaves like a natural lake.

From the very start of the study, we had agreed with Hydro-Québec that the results obtained by the different research teams would be published in peer-reviewed scientific journals. For many reasons, this study turned out to be a unique and extraordinary experience."

MICHELLE GARNEAU

Holder of the Chair on the dynamics of peaty ecosystems and climate changes (DÉCLIQUE)
Geography Department and GEOTOP research centre
Université du Québec à Montréal

Deep geothermal energy

Deep geothermal energy is still rarely used to generate power. Hydro-Québec is interested in enhanced geothermal systems, which involve injecting high-pressure water into geothermal reservoirs located a few kilometres underground in order to recover the heat to drive turbines. After an initial assessment of this option's potential in Québec, the company will study its technical and economic feasibility.

2010 HIGHLIGHTS

- The Régie de l'énergie approved six contracts for the supply of 52.9 MW of electricity produced by biomass cogeneration facilities. First deliveries are planned for late 2012.
- We contributed to the deploying of two hydrokinetic prototypes in the Saint-Laurent near Montréal. One of the turbines will be equipped with a generator custom-developed by subsidiary TM4.
- LTE pilot project looking into power and heat generated from farm-based biogas through the anaerobic processing of swine slurry: Farmers using this type of electricity can enroll in the self-generation net metering option.
- We contributed financially to the innovative Cité Verte housing project in the city of Québec. The project incorporates various green technologies including a biomass-fueled urban heating system, responsible management of rainwater, selective recovery of residual materials and underground waste management. Energy savings are estimated at 15 GWh, including 10 GWh from the use of a thermal power plant fueled by wood pellets.

IMPACTS ON CLIMATE CHANGE

In 2010, Hydro-Québec's activities helped avoid more than 9 million tonnes of CO_2 emissions—the equivalent of the yearly emissions of 2.25 million vehicles: 13.6 thousand tonnes were saved through energy efficiency and 9,050 thousand tonnes were avoided thanks to our sales outside Québec, which replaced power generated by fossil fuels on external markets.

According to the Canadian Electricity Association,[1] power generation in 2008 accounted for 16% of GHG emissions in Canada. In Québec, because of the importance of hydropower, electricity generation accounted for only 0.5%[2] of total GHG emissions.

As part of the worldwide effort to combat climate change, renewable energy sources are likely to be in demand and increase in value. We are already seeing signs of this trend in North America where, in November 2010, the U.S. National Association of Regulatory Utility Commissioners officially recognized hydropower as a clean, renewable energy source.

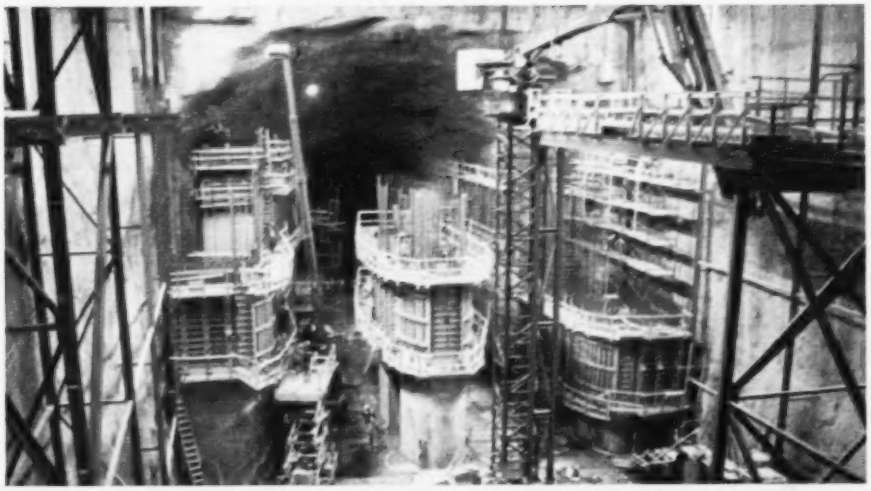
2010 HIGHLIGHTS

- With our partners McGill University, the Université du Québec à Montréal, Environment Canada and Environnement Illimité, we completed a study of net GHG emissions from Eastmain 1 reservoir. The goal was to measure reservoir emissions and subtract the GHGs that would have been emitted or absorbed by natural lakes and rivers over a 100-year period. Altogether, more than 100,000 measurements were recorded. Over 80 specialists and researchers participated in this seven-year study. The conclusion: a hydroelectric generating station located in a boreal region is one of the lowest-emitting generation options. In Québec, average GHG emissions from hydropower are comparable to those from wind power, and the level of gross emissions from reservoirs is similar to that of natural lakes. Net emissions from reservoirs are presented on page 11.

www.eastmain1.org/en

1. www.electricity.ca/media/Industry%20Data%20Update%202010/GHG%20Emissions%20in%20Canada%20by%20Sector%202008.pdf
2. www.mddep.gouv.qc.ca/changements/ges/2008/inventaire1990-2008.pdf (Available in French only)

DEVELOPMENT PROJECTS



◂ *Romaine-2 jobsite. Romaine-2 generating station will be the largest in the Romaine complex in terms of capacity (640 MW) and will also be the first to come on stream, with commissioning scheduled for 2014.*

▾ *In Côte-Nord, Adam Desjardins, a biologist from the firm GENIVAR, monitors the Atlantic salmon population in the Romaine and its tributaries.*

❶ Romaine complex

Status: under construction

Cost: $6.5 billion

Region: Côte-Nord

Construction: 2009–2020

Installed capacity: 1,550 MW

Planned annual output: 8.0 TWh

Economic spinoffs: $3.5 billion for Québec as a whole, including $1.3 billion for Côte-Nord

Complete project fact sheet:
www.hydroquebec.com/romaine *(Available in French only)*

Once completed, the Romaine complex, which got under way in 2009, will have four reservoir generating stations accessible via a 150-km road. It is part of Hydro-Québec's portfolio of hydropower projects totaling 4,500 MW referred to in the company's Strategic Plan and Sustainable Development Action Plan.

In conjunction with the construction of the complex, we have also set up an ambitious environmental monitoring and follow-up program that will run until 2040. The goal of the program is to monitor environmental changes, determine the effectiveness of mitigation and compensation measures, and make any necessary adjustments.

2010 HIGHLIGHTS

› Jobs created: 819 person years, with Côte-Nord and Innu workers accounting for 58% of the workforce.

› Regional annual expenditure: $122 million.

› Construction of a workcamp accommodating 1,200 workers in 2010, and up to 2,000 workers in 2011. To improve quality of life for workers who put in 60 hours per week, the camp offers the following services: single-occupancy rooms, cafeteria, snack bar, bar, convenience store, infirmary, recreation centre, ball field, skating rink and cross-country ski trails.

› Excavation work began for the temporary diversion tunnel, spillway, headrace tunnel and powerhouse.

› We continued construction of Route de la Romaine, which already provides access to the Romaine-2 jobsite. To meet the requests of the local community and facilitate access to the area, we opened the first 25 kilometres of the road and built public parking lots.

› We surveyed the Atlantic salmon population in the Romaine and its tributaries using a sophisticated laser technology.

› Lakes close to the workcamp were stocked with 7,580 adult brook trout from a local genetic population to prevent overharvesting of resources by the workers' leisure activities.

› Beavers were trapped along the new road and the game was distributed to the Innu community of Ekuanitshit, in keeping with tradition.

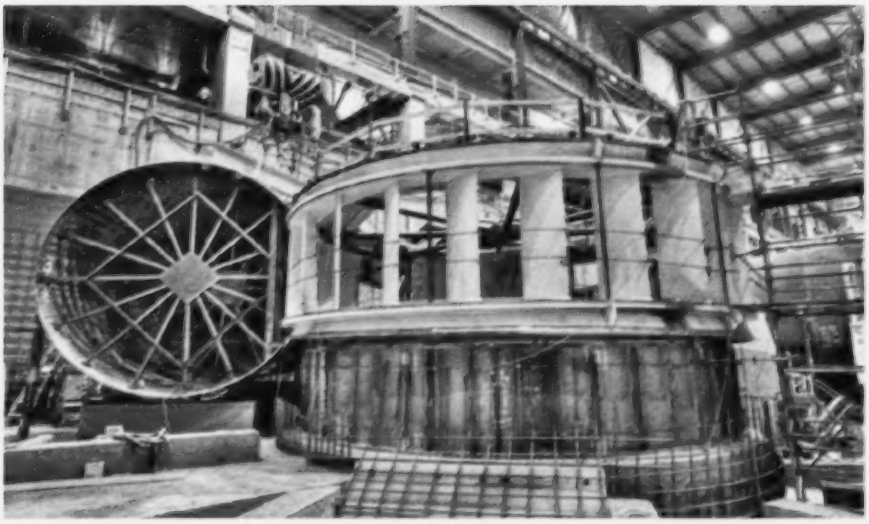
› Thanks to our industrial composter, we were able to reclaim 10 tonnes of cardboard and 21 tonnes of organic matter, which will be used to restore the workcamp sites once the project is complete.

Environmental follow-up – A few examples – 2010

FOCUS	ACTIVITIES
Social impact assessment	A wide-ranging survey of all households in the region gave us a better understanding of the local population's concerns with regard to the Romaine project. Some of these concerns pertained to environmental protection, road traffic and the hiring of local workers.
Changes in traffic on Highway 138	We implemented mitigation measures to ensure the safety of users and the well-being of local communities: shuttles to transport workers, expanded police force, construction of pedestrian crossings, road signs brought up to standards, monitoring of noise levels.
Determining baseline salmon populations in the Romaine and its main tributaries	We installed a fish weir for counting salmon, made an inventory of nests and monitored fishing.

▼ *In Baie-James, Cree worker Nelson Wapachee, team coordinator Joanie Cartier and wildlife technician Martin Dallaire monitor lake sturgeon larvae drift in the Rupert.*

▼ *Assembly of a scroll case at Eastmain-1-A. This spiral-shaped metal tube wraps around the turbine and ensures a regular flow of water around its edges.*



❶ Eastmain-1-A/Sarcelle/Rupert project

Status: under construction

Cost: $5.0 billion

Region: Nord-du-Québec

Construction: 2007–2012

Installed capacity: 918 MW

Planned annual output: 8.7 TWh

Economic spinoffs: $2.9 billion for Québec as a whole, including $640 million for Nord-du-Québec

Complete project fact sheet:
www.hydroquebec.com/rupert/en

The project includes the construction of Eastmain-1-A (768 MW) and Sarcelle (150 MW) powerhouses, as well as the diversion of part of the Rupert's waters to these generating stations and on to Robert-Bourassa, La Grande-2-A and La Grande-1 in the La Grande complex.

An environmental monitoring and follow-up program has been under way since 2007 and will continue until 2023. The goal of the program is to monitor changes in the environment and determine the effectiveness of mitigation measures.

2010 HIGHLIGHTS

› Jobs created: 3,537 person-years (38% regional workers).

› Total annual expenditure: $848 million.

› The eight hydraulic structures built along the Rupert were gradually commissioned throughout this first year following its partial diversion. Despite unusually low precipitation, the structures fulfilled their function of keeping up water levels in about 50% of the river downstream of Rupert dam, thereby protecting plant and wildlife habitats, maintaining navigation and land use, and preserving the landscape.

› We continued construction of Eastmain-1-A and Sarcelle powerhouses, which will come on stream in 2011 and 2012, respectively.

› The new drinking water plant at Waskaganish went into operation.

› A bay downstream of Rupert dam was enhanced through the creation of a water body, seeding of herbaceous plants and excavation of shallow ponds to facilitate goose hunting.

› We finished the construction of 12,219 m² of spawning grounds: 8,533 m² of multispecies grounds, 2,060 m² for sturgeon, and 1,626 m² for brook trout and lake trout.

› We began seeding the sensitive portion of the exposed banks of the Rupert with herbaceous plants to encourage rapid plant regeneration and promote the use of the banks by waterfowl.

› We built new access roads and small basins to promote community fishing of anadromous lake cisco.

› Approximately 20 borrow pits and other areas used for construction were converted into goose-hunting grounds.

› As of the end of 2010, we had completed the third year of jobsite rehabilitation.

Environmental follow-up – A few examples – 2010

FOCUS	ACTIVITIES
Upstream migration, spawning and larvae drift – Observation of changes following the partial diversion of the Rupert	Monitoring of anadromous lake cisco to verify its presence upstream of the Smokey Hill rapids and its spatial distribution in spawning grounds downstream of the rapids (in the fall), as well as larvae abundance during downstream migration (spring). Initial results in 2010 indicate that larvae are abundant in spring, lake cisco continue to migrate upstream and a portion of the population crosses the rapids.
Maintain use of natural sturgeon spawning grounds	Results indicate that, overall, spawning grounds used under natural conditions continue to be used under the new flow regime. Sturgeon spawning grounds availability is as extensive as it was under natural conditions, if not more so.
Cree social and cultural environment	According to a survey conducted among the nine Cree communities, six of which are affected by the project, 21% of respondents stated the project had had a negative impact on their lives, mainly due to changes in the land, while 18% said it had had a positive impact, mainly due to job creation. About 90% of Cree workers surveyed considered their job experience either positive or very positive.

◂ *Gaspésie/Bas-Saint-Laurent region. Goémon–Gros-Morne line before the installation of conductors.*

▾ *To minimize the impact of the Chénier–Outaouais line on farmland, we designed a new type of reduced-footprint tower.*

Expansion of the transmission grid in Minganie

Status: awaiting authorization

Cost: $1.3 billion

Region: Côte-Nord

Construction: 2011–2020

Transmission capacity: 1,550 MW

Complete project fact sheet:
www.hydroquebec.com/projects/romaine_transport.html

The project calls for the construction of 496 km of 315-kV and 735-kV lines and four substations, which will entail modifications at Arnaud and Montagnais substations. It will allow the hydropower output of the Romaine complex to be integrated into the transmission system.

The environmental impact statement includes the following mitigation measures: tower distribution that avoids wetlands, and preservation of vegetation in sensitive areas so as to maintain a high-quality wildlife habitat.

2010 HIGHLIGHTS

› The Bureau d'audiences publiques sur l'environnement held a public hearing in the spring and a report, which was favorable to the project, was filed with the competent authorities in October. Government approvals are expected in spring 2011.

› An archaeological inventory along the 289-km future Romaine-2–Arnaud line was completed.

315-kV Chénier–Outaouais line

Status: in operation

Cost: $140 million

Regions: Laurentides and Outaouais

Construction: 2009–2010

Transmission capacity: 1,250 MW

Complete project fact sheet:
www.hydroquebec.com/projets/chenier_outaouais.html *(Available in French only)*

The double-circuit 315-kV Chénier–Outaouais line (116 km), which links Chénier substation (Mirabel) to Outaouais substation (l'Ange-Gardien), supplies Ontario with 1,250 MW of firm capacity and improves the reliability of the regional load in Québec. Mitigation measures adopted include using the existing right-of-way and building new towers next to existing ones, as well as maintaining a vegetation screen, where appropriate, along the edges of public roads.

2010 HIGHLIGHTS

› The work was completed and the facilities were commissioned.

› We designed a new type of small-footprint tower (41 m at the base, compared to 72 m) to minimize impact on farmland.

❶ 230-kV Goémon–Mont-Louis–Gros-Morne line

Status: under construction

Cost: $106 million

Regions: Bas-Saint-Laurent and Gaspésie

Construction: 2010–2011

Voltage: 230 kV

Complete project fact sheet:
www.hydroquebec.com/projects/goemon-mont-louis-gros-morne.html

The 230-kV Goémon–Mont-Louis–Gros-Morne line (106 km) will integrate the future Mont-Louis (100.5 MW) and Gros-Morne (211.5 MW) wind farms into the grid. One of the mitigation measures involves the choice of a route that avoids the region's protected areas. About 80% of the line will run across public land, protecting private properties along the Saint-Laurent and preserving scenic views from Highway 132.

2010 HIGHLIGHTS

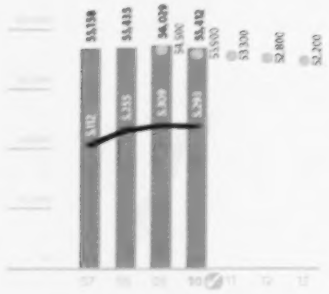
› Building overhead lines across several deep valleys allowed us to minimize land clearing and avoid any construction on the slopes or at the bottom of the valleys.

› Environmental monitoring of the roundleaf orchid (*Amerorchis rotundifolia*), a special-status plant species, was carried out to determine whether the species had been protected during clearing for the line. Result: Thanks to the application of the planned mitigation measures, the population was preserved and in good health following land clearing.

ENVIRONMENT

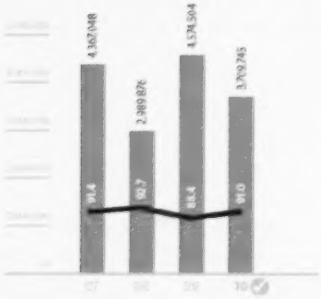
Archeotec archaeology technicians Johanne Michel, a local Innu, Audrey Woods and Thierry Rauck examine remains at an old campsite used by Aboriginal trappers. This camp on the bank of the Rivière Romaine was marked on a prospecting map dated 1942.

GHG EMISSIONS FROM HYDRO-QUÉBEC'S VEHICLE FLEET ($t CO_2 E$)



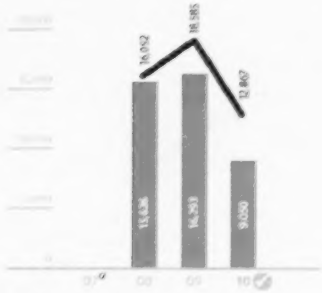
GHG emissions from the vehicle fleet
Target
Total number of vehicles

RECOVERY AND REUSE OF INSULATING OIL (LITRES)



Quantity recovered
Reused internally (%)

EMISSIONS AVOIDED BY NET EXPORTS OF ELECTRICITY ($kt CO_2$)



a) Data not available.

Emissions avoided
Net exports (GWh)

The 1.1% drop in GHG emissions in 2010 resulted mainly from reduced light-vehicle emissions. Several action plans introduced in 2010 should enable us to achieve the 2013 target. The data and targets have been recalculated according to the CO_2 equivalent emission factors published by Environment Canada.

Recovered oil sufficed for all the company's requirements. Oil is decontaminated and regenerated for reuse in equipment. Oil that cannot be regenerated is reclaimed as energy.

When conditions permit, Hydro-Québec exports hydroelectricity. Low natural runoff led the company to reduce its exports in 2010. The method for calculating CO_2 emissions was changed to incorporate the new emission factors in the *Regulation to amend the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere* adopted by the Québec government in December 2010.

ATMOSPHERIC EMISSIONS

According to the 2008 Québec inventory of greenhouse gas emissions,[1] CO_2 emissions per capita in Québec were less than half the amount for Canada as a whole. This phenomenon can be largely explained by the almost exclusive use of renewable energy sources to produce electricity. Exports of electricity to neighboring systems in northeastern North America also help to reduce GHG emissions.

The company has adopted various measures to reduce emissions from its vehicle fleet, which is the second largest source of GHG emissions after powerhouse operation.

2010 HIGHLIGHTS

- Atmospheric emissions from power generation and purchases in Québec were significantly lower than the average for neighboring provinces and states in Canada and the U.S.: 13,635 t CO_2/TWh (35 times less than the average), 24 t SO_2/TWh (39 times less) and 23 t NO_x/TWh (30 times less).
  www.hydroquebec.com/sustainable-development/documentation/pdf/etiquette_achats_en.pdf
- 236 light-duty vehicles, or 4.2% of the vehicles replaced during the year, were replaced with more energy-efficient models. This measure reduced annual fuel consumption by 72,305 litres and cut emissions by 180 t CO_2 eq.
- According to an internal survey, 91.9% of the employees working in downtown Montréal use means other than single-occupant cars to get to work. This is up 2.7% from 2006, the year the Allégo program began.
- Employees took advantage of the BIXI bicycle-sharing system's multiuser keys, available at six Hydro-Québec buildings in Montréal, for 662 active short trips.

1. www.mddep.gouv.qc.ca/changements/ges/2008/inventaire1990-2008.pdf (Available in French only)

GHG emissions from Hydro-Québec operations – 2010

CATEGORY	OPERATIONS	EMISSIONS (T CO_2 EQ.)
Direct sources (level 1)		
Generating stations	Thermal power plants	212,038
Mobile sources	Vehicle fleet	55,412
	Hydro-Québec aircraft fleet	11,959
	Propane fueled lift trucks	108
Fuel use	System maintenance generators	1,385
	Emergency and jobsite generators	5,037
	Building heating (off-grid systems, telecommunications)	460
Other uses	Equipment containing CF_4 and SF_6 (leaks)	38,518
	Aerosol use	561
Indirect sources (level 2)		
Energy losses	Losses related to power transmission and distribution[a]	225,332
Total direct emissions (level 1)		**331,478**
Total indirect emissions (level 2)[a]		**225,332**
Emissions avoided by net exports of electricity[a]		**9,050,255**

a) Emissions in t CO_2 only.

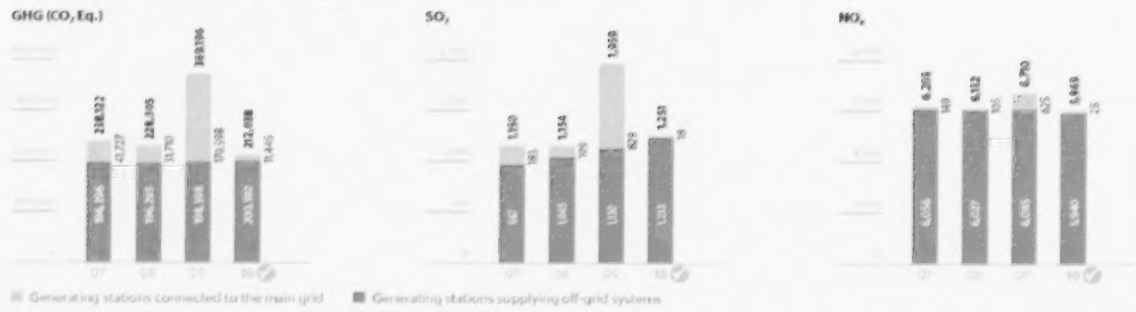
"Hydro-Québec Distribution uses the most vehicles in the company. It owns nearly half of Hydro-Québec's fleet, so its commitment is essential to achieve the vehicle fleet GHG reduction target in the Sustainable Development Action Plan.

Since 2006, our division has implemented over 15 reduction measures: we limited heavy-vehicle speed to 90 km/h, installed on/off switches for motors in bucket truck consoles, installed auxiliary heating systems to reduce idling, acquired more energy-efficient vehicles and raised employee awareness regarding idling and sport-style driving.

In the coming years, we will increase our efforts to reduce GHG emissions by using new technology in heavy vehicles. This is a stimulating team project for which we have management support."

PIERRE TREMBLAY
Team Leader – Rolling Stock
Hydro-Québec Distribution

ATMOSPHERIC EMISSIONS FROM HYDRO-QUÉBEC THERMAL GENERATION OPERATIONS (TONNES)



Most emissions are from thermal power plants supplying off-grid systems. In 2010, the method for calculating CO_2 eq. emissions was modified to comply with the Regulation to amend the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere. Emissions in 2010 were lower because of the reduced use of Tracy thermal power plant, which was shut down indefinitely after the 2011 winter peak.

REFURBISHMENT OF GENTILLY-2 GENERATING STATION

In August, Hydro-Québec decided to postpone refurbishing at Gentilly-2 nuclear generating station from 2011 to 2012. Our main supplier in this project, Atomic Energy of Canada Limited (AECL), is experiencing delays in the refurbishment of CANDU generating facilities elsewhere in Canada and the world. Hydro-Québec also wishes to draw upon the valuable lessons these projects will provide and wait for the outcome of the AECL sale by the Canadian government. However, we continued engineering and procurement activities for the key project components and completed phase II of construction of the waste management facility for storing solid radioactive waste from the plant's refurbishment.

ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL FOLLOW-UPS

Every Hydro Québec project must comply with strict profitability, environmental and social acceptability criteria. Even projects that are not subject to government approval processes undergo an internal environmental assessment in accordance with company rules.

During project construction and for a number of years after project completion, environmental follow ups monitor changes in the environment and the effectiveness of mitigation measures. These studies enable the company to take any necessary corrective action, prevent or mitigate unforeseen impacts and improve knowledge for use in future projects.

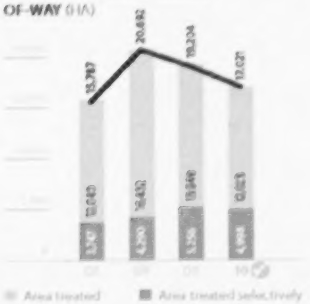
2010 HIGHLIGHTS

- The new environmental assessment guide for generating fleet refurbishment and maintenance projects, entitled *Guide d'évaluation environnementale des projets de réhabilitation et de maintenance des installations de production*, provides a process for incorporating environmental requirements, tools for conducting systematic environmental assessments, and assessment aids.
- General environment related design requirements were established to ensure that environmental assessments for transmission grid expansion projects are conducted carefully and with consistent quality.
- A questionnaire developed for use in projects to maintain long-term operability will help to assess all aspects of substations that may have environmental impacts.
- Internal environmental assessments for substation projects will systematically apply a computer program that contains over 30 years of mitigation measures used in various projects.
- This was the last year for fish follow up at the Rocher-de-Grand-Mère project. The developed spawning ground is frequented by at least five species of fish. Sixteen bass nests were observed there in 2010, compared with four during the draft design study. (Mauricie)
- The follow-up on forest birds conducted for the Manouane diversion counted 29 species at 144 listening stations in the study area. In the flooded zone, only the cleared sites showed a significant per-hectare increase in the number of breeding pairs. The overall local impact of the diversion appears to be negligible because of the presence of many similar areas, among other factors. (Mauricie)

LAND USE

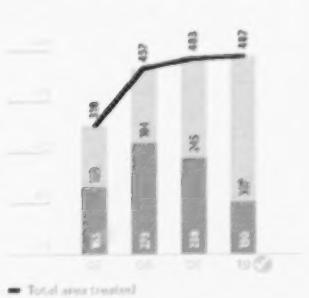
Québec covers an area of 1,667,441 km² with a number of climate zones and a wide variety of ecosystems. To preserve the natural environment, the Québec government has designated more than 8% of the province's territory as protected areas and plans to increase this amount to 12% by 2015. This strategy has encouraged Hydro-Québec to obtain a better understanding of the importance that communities attach to landscape and the quality of their surroundings, especially when it comes to the construction of wind turbines and power transmission lines. In 2010, 204 km of new transmission lines were added to the grid.

VEGETATION CONTROL ALONG TRANSMISSION LINE RIGHTS-OF-WAY (ha)



The area of transmission line rights-of-way to be maintained is 167,427 ha. Hydro-Québec uses less than 0.2% of the pesticides sold annually in Québec.

VEGETATION CONTROL ON DIKES AND DAMS (ha)



The reduction in the area treated with herbicides is largely due to delays that prevented spraying and resulted in increased use of mechanical methods.

In the line right-of-way crossing the municipality of Inverness, in the Centre-du-Québec region, Forestry and Arboriculture Technician Maud Douville strives to preserve biodiversity.

VEGETATION MANAGEMENT

To ensure that its transmission and distribution systems are reliable and safe, Hydro-Québec must control the vegetation in line rights-of-way. For the transmission system, the company follows an integrated vegetation management procedure that promotes the use of the right treatment in the right place at the right time. No herbicides are used in distribution system maintenance, but pest control products are sometimes applied in transmission line rights-of-way after assessment of their technical and environmental performance.

2010 HIGHLIGHTS

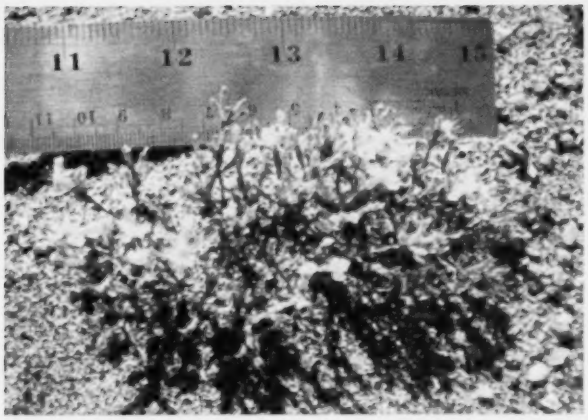
- We continued a program to enhance our understanding of how the vegetation in line rights-of-way changes after initial clearing, rehabilitation and seeding with compatible plant species. The follow-up shows that using selected seed mixes significantly reduces invasion by incompatible species, as does treating stumps with herbicides. Research showed that the latter procedure also fosters the growth of compatible species in the right of way.
- Percentage of vegetation control operations that incorporate biodiversity protection measures: 82% (target 82%). The 2011 target is 85%.
- Seven biodiversity protection measures were developed for land clearing related to vegetation control in the distribution system: selective clearing, snag preservation, management of merchantable timber, debris windrowing, debris scattering, debris mixing and debris chipping.

www.hydroquebec.com/vegetation-safety

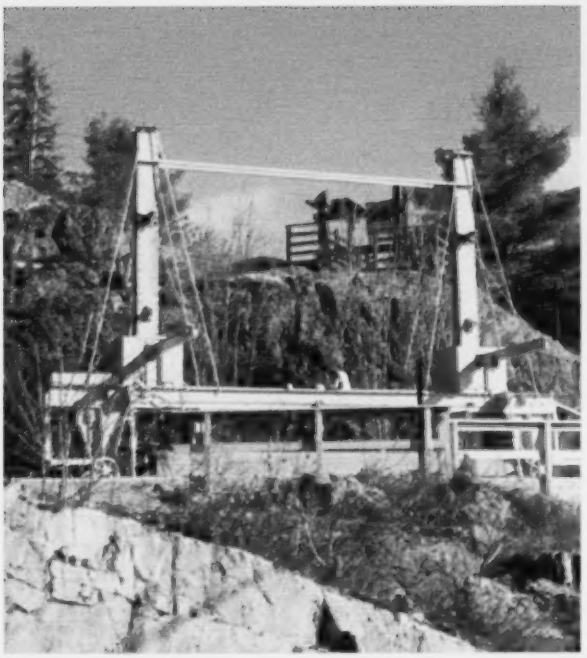
2010 HIGHLIGHTS

- We contributed to a guide to good landscaping practices, titled *Paysages du Québec – Manuel de bonnes pratiques*, put out by the Paysages estriens organization and intended for land use planners, municipal officials and anyone else working to enhance and preserve landscapes.
- We published a revised and expanded French edition of the *Guide to Ornamental Trees and Shrubs*, which describes 1,760 plant species and varieties found in Québec and provides advice on planting trees and shrubs near distribution lines.
- The Grande Vallée – Montagne Sèche–L'Anse à Valleau line was built inland to preserve the scenic corridor along Highway 132 and protect private properties along the Golfe du Saint-Laurent (Gulf of St. Lawrence). (Gaspésie–Îles-de-la-Madeleine)
- The Rivière au Renard substation expansion was built on a sloping section of the Hydro-Québec property to avoid encroaching on adjacent farmland. Seeding of a retaining wall and other planting will help to blend the substation site with the landscape. (Gaspésie–Îles-de-la-Madeleine)
- As part of the program to enhance public thoroughfares, 800 m of the distribution grid in Gatineau (Outaouais) and 430 m in Pointe-Claire (Montréal) were buried underground.
- We contributed to the publication of *Paysages maskoutains*, a guide for landscape designers and developers that suggests a procedure, tools and methods for incorporating public concerns.

▼ *Hydro-Québec has undertaken to protect sand heather plants that will be affected by the impoundment of Romaine 4 reservoir.*



▶ *Protection and enhancement of industrial heritage: the site of a hoist trolley dating from the early 1940s was inaugurated near Rapides-des-Quinze dam.*



HERITAGE AND ARCHAEOLOGY

Hydro-Québec endeavours to protect and enhance the built, technological, natural and archaeological environment.

2010 HIGHLIGHTS

› An inventory of 41 transmission substations was compiled, in conjunction with the Université de Montréal's Canada Research Chair on Built Heritage, to determine their heritage value.

› Two former distribution system structures—decommissioned underground chambers near the Lachine canal—were documented. The older of the two dates from 1897. (Montréal)

› Windows at Beauharnois generating station were refurbished in keeping with their original (1932) character and size. (Montérégie)

› An archaeological inventory conducted along 90 km of the future line that will connect the villages of Natashquan and La Romaine uncovered 14 archaeological sites. The discovery of several sites at very high altitudes indicates that occupation may go back more than 8,000 years. (Côte-Nord)

ENVIRONMENTAL COMPLIANCE

Hydro-Québec's ISO 14001–certified environmental management systems uphold strict compliance with environmental legislation. In addition, to manage contaminated sites with due diligence, the company adopted a strategy in 2007 that improves its knowledge of site condition and provides the necessary information for assessing environmental and human health risks.

2010 HIGHLIGHTS

› The number of noncompliance notices, which were mainly related to construction sites, increased to 51, compared to 20 in 2009. No major violations were reported.

› Facilities were built in the Granby administration centre yard to treat rainwater containing leachates from new treated wood poles stored there. Potentially contaminated runoff is channeled into gutters to be filtered and the treated water is then sent to the municipal rain sewer system. (Montérégie)

BIODIVERSITY

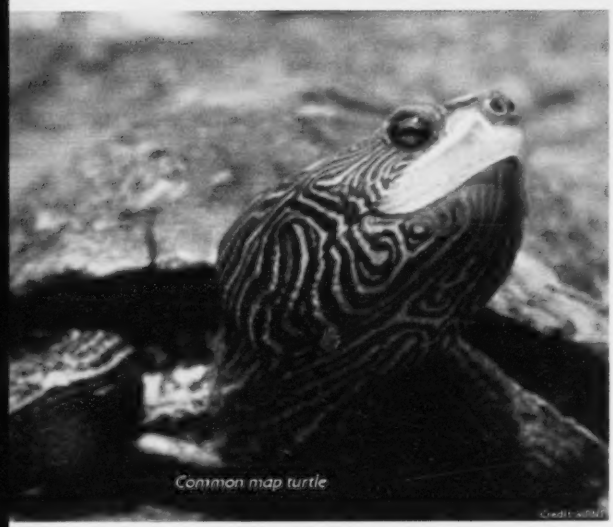
In this International Year of Biodiversity, Hydro-Québec consolidated its contribution to species preservation and restoration by collaborating on the protection of some 20 species at risk (see the table on the next page).

In Québec, the list of species designated as threatened or vulnerable now includes 68 species of wild plants and 38 animal species. The list of species likely to be designated as threatened or vulnerable encompasses 325 plant species and 115 animal species.
Plants: *www.mddep.gouv.qc.ca/biodiversite/especes/index.htm*
Animals: *www3.mrnf.gouv.qc.ca/faune/especes/menacees/liste.asp*
(Both available in French only)

2010 HIGHLIGHTS

› A program was established to transplant and reproduce sand heather plants, a special status species that will be affected by the impoundment of Romaine 4 reservoir and that Hydro-Québec has undertaken to protect. The environmental follow-up results are promising and the survival rate is high. (Côte-Nord)

9 › The *Canadian Business and Biodiversity Case Studies Compendium* (Volume 1, 2010) cites measures used by Hydro-Québec to conserve biodiversity along distribution lines as examples of the biodiversity best practices by Canadian companies.


Common map turtle

Credit: ADIRO

QUÉBEC TURTLES

Six of the eight species of freshwater turtles in Québec are considered to be at risk. In addition to living at the northern limit of their natural range, these species mature late and therefore face various threats before they are able to reproduce. The survival rate of eggs and young is relatively low.

As well as participating in the turtle recovery team's work, Hydro-Québec pays special attention to the presence of these reptiles near its facilities. For example, its properties in the Bristol marsh area bordering the Rivière des Outaouais (Ottawa River) are home to 300 Blanding's turtles, 400 common map turtles and 300 common musk turtles. Users of these areas have been made aware of the presence of these fragile species.

The Beauharnois canal is a thoroughfare for turtle movement. A study was conducted to verify their presence upstream of Beauharnois generating station. The small number of turtles sighted suggests that this facility does not have a major impact on the turtle population.

Preservation and restoration – Examples of activities – 2010

SPECIES AND LEGAL STATUS UNDER THE ATVS	INTERACTION WITH HYDRO-QUÉBEC OPERATIONS	ACTION
American shad(V)	Migratory fish that interacts particularly with Rivière-des-Prairies generating station	› Participated in the recovery team's work › Tested an ultrasound barrier that guides shad toward the spillway at Rivière-des-Prairies
Woodland caribou, forest ecotype(V)	Boreal forest species that interacts with generating and transmission facilities	› Participated in the recovery team's work › Conducted telemetric monitoring for the Romaine project
Western chorus frog(V)	Present on Hydro-Québec properties, interacts with a number of the company's facilities	› Participated in the recovery team's work › Boosted employee awareness › Implemented special operating and maintenance measures for electrical facilities in the species' habitat
Striped bass (currently being designated under the SRA as an extirpated species in Québec)	Species reintroduced in the Saint-Laurent and present near Gentilly-2 generating station	› Participated in the recovery team's work and in reintroduction efforts › Species monitored near Gentilly-2 › $10,000 grant provided to purchase transmitters for a follow-up study in the Saint-Laurent
American eel(LD)	Migratory fish species that interacts with some generating facilities	› More than 79,300 juvenile eels — the second highest number since 1994 — migrated through the fish passes at Beauharnois generating station. › At Chambly dam, nearly 6,500 eels used the fish pass to reach Lac Champlain, the second highest number since the pass was built. › Four trap passes were installed downstream of Carillon generating station to document the abundance of immature eels migrating upstream in the Rivière des Outaouais (Ottawa River).
Migratory birds: redheaded woodpecker(T) Forest birds are protected under the MBCA and ACDW	Interact with generating, transmission and distribution facilities	› An internal committee monitors bird conservation and incidental take management. › A study of bird interaction with the distribution system showed that dissuasion methods appear to be effective for woodpecker species, but changes could improve the results.

(T) Threatened – (V) Vulnerable – (LD) Likely to be so designated

ATVS: *Act respecting threatened or vulnerable species, Québec*

SRA: *Species at Risk Act, Canada*

MBCA: *Migratory Birds Convention Act, 1994, Canada*

ACDW: *Act respecting the conservation and development of wildlife, Québec*

SUSTAINABILITY

In 2010, we celebrated 40 years of environmental activities at Hydro-Québec, which now employs over 250 environment specialists. Its studies, research, methods and technologies have been discussed in numerous publications. The environment documentation centre has over 44,000 documents, and more than 13,000 of them were written by Hydro-Québec or by third parties about Hydro-Québec.

2010 HIGHLIGHTS

- Hydro-Québec earned BOMA BEST certification for 15 administrative buildings. BOMA assesses the environmental and energy performance of commercial buildings according to specific criteria. Our head office received this certification in 2009.
- The Joliette motor vehicle repair shop was awarded Silver Level CLÉ VERTE environmental certification. This certification by Nature-Action Québec recognizes auto shops that fulfill criteria based on environmental best practices and exceed the legal and regulatory requirements for management of residual materials, processes and equipment. (Lanaudière)
- An air cushion vehicle was purchased for rail shipping transformers weighing several hundred tonnes from the ABB plant to the IREQ laboratory. Transformers weighing over 280 tonnes previously had to be shipped by truck, a process that required huge quantities of abrasives to be spread on roads in winter to ensure perfect driving conditions. (Montérégie)

6. Recycling services were improved. Secondary multimaterial recycling stations were added and the volume of some existing stations was increased. In all, more than 700 recycling stations have now been set up in various administrative buildings (372 in 2009).
5. Two new waste recovery programs were introduced for porcelain transmission line insulators and plastic packaging from the company's stores.
10. 1,548 measures were taken (donations of surplus food to charitable organizations, promotion of mass transit, etc.) during 120 sustainability events, for an average of 12.9 measures per event; this is higher than the target of 10 set for 2010 and the results in 2009 (10.7).
7. A sustainable procurement guide was produced for printing and copying services. This guide sets paper specifications, states that suppliers must have FSC certification (traceability) and requires that market trends be monitored regarding environmental performance of equipment and inks.

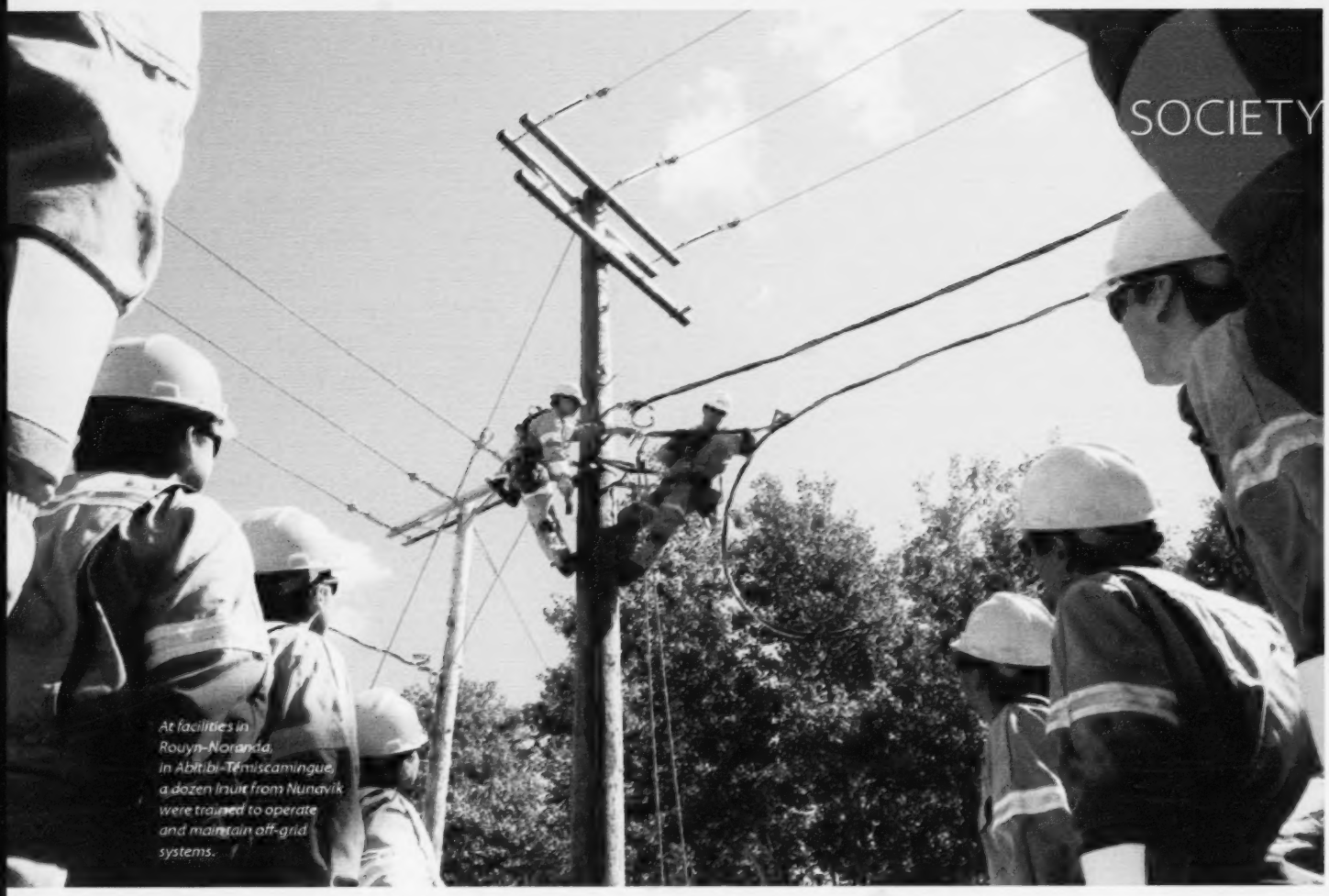
- We modified our wood debris management practices during vegetation control operations for rock walls along the access roads to Manic 2, Outardes 3 and Outardes 4 generating stations. Wood debris is chipped and transported to land owned by the Société d'aménagement et d'exploitation des parcs de Baie-Comeau and a recycling company. The debris is then recycled as garden or sanitary landfill mulch. (Côte-Nord)

Procurement, recovery, reuse and recycling of residual materials – 2010 statistics

	PROCUREMENT	RECOVERY	NOTES
Power line hardware (tonnes)	not available	509	Most power line hardware from dismantled distribution lines is given to a business and recycling training centre (CFER). Parts in good condition are re-milled and reused, and damaged parts are recycled.
Printer cartridges and accessories (units)	21,639	27,483	Recycled cartridges purchased: 2%.
Cell phones and accessories			Cell phones collected are sent to a CFER. When phones are in good condition and reusable, the data is erased and the batteries replaced. All others are recycled.
Purchased (units)	1,271	not applicable	
Recovered (kg)	not applicable	443	
Computer equipment			Computer and electronic equipment is collected by a company that employs people with functional difficulties. After data is erased, equipment that still has value is sold or given to charities. Obsolete and damaged equipment is dismantled and recycled.
Purchased (units)[a]	9,506	not applicable	
Computers (units)	not applicable	1,179	
Metal (tonnes)	not applicable	9,973	Excludes 509 t of power line hardware.
Wood pallets (units)	not applicable	20,536	95% of recovered pallets will be reused. The others are recycled for use in animal bedding and acoustic tiles.
Paper and paperboard (tonnes)	427	1,388	Paper purchases only.
Porcelain (transmission line insulators) (tonnes)	not applicable	179	Several porcelain insulator recycling technologies have been tested in cooperation with a CFER. An insulator recovery and recycling program is being tested in a number of areas.
Ring binders (units)	20,238	9,648	Recovered binders are reconditioned or recycled.
Clothing (kg)	not available	2,840	Collection is handled by three CFERs. After clothes are cleaned and the Hydro-Québec logos removed, clothing that still has value is repaired and reused. The rest is recycled.

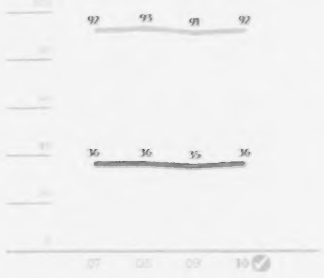
a) Computer equipment includes desktop, laptop and workstation computers and monitors.

SOCIETY



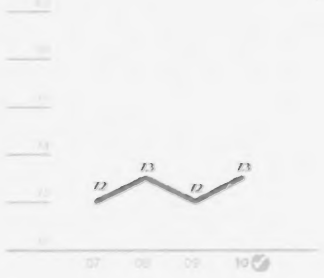
At facilities in Rouyn-Noranda, in Abitibi-Témiscamingue, a dozen Inuit from Nunavik were trained to operate and maintain off-grid systems.

OVERALL PUBLIC SATISFACTION INDEX (%)



– Very and somewhat satisfied
– Very satisfied

PERCEPTION OF HYDRO-QUÉBEC'S SUSTAINABILITY PERFORMANCE (SCALE OF 10)



HYDRO-QUÉBEC'S IMAGE (SCALE OF 10)

Surveys were conducted by SOM in 10,013 telephone interviews between January and December 2010. The margin of error for annual results is ± 1% or 0.1 (19 times out of 20).

PUBLIC PARTICIPATION IN A MAJOR PROJECT

	PLANNING	DRAFT DESIGN AND PERMITTING	CONSTRUCTION	OPERATION
GENERATION	- Preliminary discussions with RCMs and Aboriginal communities with a view to signing agreements - Identification of basic expectations and issues - Duration: 1 to 2 years	- Information and discussion panels - Continuous communications (open house events, information meetings, media relations, etc.) - Public consultation by government authorities - Duration: 2 to 5 years	- Economic spinoff committees - Environmental and agreement monitoring committees - Public information on work progress (bulletins, press releases, etc.) - Duration: varies, 2 to 12 years	- Environmental and agreement monitoring committees - Follow-up duration: varies, exceeds 20 years for the Romaine project

TRANSMISSION	- Evaluation of the relevance of consulting host communities when environmental issues are unknown
	- Duration: 1 to 2 years
		- Three communication phases implemented by project teams:
		  - general information
		  - information and consultation
		  - information on the solution selected
		- Various types of communication (open house events, information meetings, media relations, etc.)
		- Public consultation by government authorities
		- Duration: 2 to 5 years
			- Public information on project progress (bulletins, press releases, Info-project line, etc.)
			- Duration: 1 to 5 years
				- No external communication. As needed, written information on results of environmental follow-ups
				- Follow-up duration: varies, 7 years for the Des Cantons–Lévis–Appalaches project

PROJECT ACCEPTABILITY AND PUBLIC PARTICIPATION

Hydro-Québec published its first policy on interaction with the public in 1978. Over the years, the company has developed and implemented a public participation process intended to boost the acceptability of its development projects.

Public participation involves taking the various publics' concerns and expectations into account when decisions are made so that projects will blend in with their environment and be accepted by the host community.

This approach requires true public participation at every stage in project development. Projects must meet three criteria: they must be profitable, environmentally acceptable and favorably received by local communities.

Generation and transmission projects

The public participation process is developed by the project teams, who work with the community relations teams in each region. The latter are responsible for fostering agreement with community representatives.

For generation projects, the process is based on the signature of agreements with regional county municipalities (RCMs) and the Aboriginal communities concerned, as well as on information and discussion panels organized with host community stakeholders. These activities are supported by communication procedures that enable local stakeholders to have direct, ongoing discussions with Hydro-Québec.

For transmission projects, the participation process generally involves three communication phases: general information on the project, consultation regarding variants (line routes or substation locations) and information on the solution selected by Hydro-Québec.

The above table illustrates the public participation process and the steps in obtaining government approvals for a generation project or major transmission project.[1]

2010 HIGHLIGHTS

- Hydro-Québec surveyed RCMs, urban communities and other municipalities in Québec to determine their expectations and satisfaction with the company's operations. The participation rate was 71.2%. The overall satisfaction rate was 7.73 out of 10, up from 7.59 in 2007, the year of the previous survey. The company's willingness to partner with local communities on all its projects is appreciated by the municipalities.

ABORIGINAL COMMUNITIES

Hydro-Québec maintains particularly close ties with Aboriginal communities. The 11 Aboriginal nations in Québec are located in 55 communities, many of which are in areas with high hydropower potential. Their in-depth knowledge of the natural environment is useful in environmental inventories and the development of mitigation measures.

1. Transmission projects subject to Section 31.1 of the *Environment Quality Act*, which usually involve voltage exceeding 315 kV.

2010 HIGHLIGHTS

1 *Romaine complex (Côte-Nord)*

- The three agreements signed with the communities of Ekuanitshit, Nutashkuan, and Unamen Shipu and Pakua Shipi are monitored by Innu–Hydro-Québec joint ventures that serve as permanent discussion and coordination forums, and administer the funding provided under the agreements. Funding is to be used by the Innu communities for economic, environmental, social and cultural initiatives.
- The three Romaine technical and environmental committees (CTERs), created under the agreements with the Innu, held meetings at which Hydro-Québec reported on the 2009 environmental follow-up and the environmental studies conducted with the Innu in 2010. The company also informed the Innu committee members about construction progress at the Romaine complex. The committees participated in the survey of the four Innu communities pertaining to the follow-up study on social impacts.
www.hydroquebec.com/romaine/environnement/acceptation.html (Available in French only)
- A contract to reopen the Rivière-Saint-Jean sawmill was signed with the Innu community of Nutashkuan; it will stimulate regional economic development.
- An Innu employment advisor and a social worker were hired to help Innu workers adapt to the jobsite, and an Innu recreation technician was also hired to promote closer relations between Aboriginal and other workers.
- About 130 Innu (145 in 2009) participated in information and employment preparation workshops in the Innu communities. These workshops deal with life at the jobsite and working conditions.
- *Nipeteti*, a radio show in Innu and French, was launched in the Innu communities affected and at the jobsite.
- A bulletin entitled *Nashkuaikan* was published in the Innu language.

"Since 1975, Hydro-Québec has signed about 30 agreements with Aboriginal nations and communities concerning development projects. These agreements enable the Aboriginal communities to be actively involved in the projects from the earliest stages through to the operating phase, to participate in environmental follow-up programs and to reap the benefits of economic spinoffs. This type of partnership promotes energy development in Québec that takes the interests, values and culture of Aboriginal communities into consideration."

MATHIEU BOUCHER
Manager – Relations with Aboriginal Communities
Hydro-Québec Production

Examples of public participation – 2010

PROJECT	STATUS	REGION	ACHIEVEMENTS
Kuujjuaq thermal power plant	Commissioned in 2010	Nord-du-Québec	Public consultation (Inuit community of Kuujjuaq and Nayumivik Landholding Corporation) on the location of the new power plant. All facilities were grouped together in one place to optimize equipment management and preserve the surrounding wetlands.
120-kV line for the Massif-du-Sud wind farm	Under study	Chaudière-Appalaches	After consultation, a route was chosen that involves major modifications but meets community requests deemed technically and environmentally acceptable. The optimized route bypasses a woodland and the water supply sources of a fish farm, uses an existing snowmobile trail and reduces impacts on farmland. The route's length was increased from 23.9 to 25 km, with no impact on the project's economic viability.
Transmission system upgrade in the northeastern part of metropolitan Montréal	Under study	Montréal	Meetings were held with borough and city of Montréal authorities. Topics discussed included optimizing the location of the new Bélanger substation to deal with urban planning concerns of the borough of Saint-Léonard while satisfying technical, environmental and economic criteria. Then, information meetings were held and bulletins distributed to residents.
Transmission system expansion in the Minganie region	Awaiting authorization	Côte-Nord	Elected officials were visited and informed of project progress and potential economic spinoffs. The Bureau des audiences publiques sur l'environnement discussed project details and answered the public's questions.
Ontario interconnection from Outaouais substation	Completed in 2010	Outaouais	A Project Summary bulletin was circulated to wind up the project; it describes public participation highlights and technical, economic and environmental factors.

"Hydro-Québec always tries to blend its transmission projects into the host environment as harmoniously as possible. And thanks to the Integrated Enhancement Program, we can work closely with municipalities on community projects that are important to them and that have very positive direct spin-offs for the communities. For example, while working on the IEP initiative for Vaudreuil-Soulanges substation, I had the opportunity to establish excellent, sustainable relations with Ville de Saint-Lazare representatives. Together, we looked at the program criteria, then the municipality chose to develop bicycle path segments to connect a large park and an outdoor recreation centre to the city's bicycle path network so that all the inhabitants of a number of residential neighborhoods would have access. This is a lovely sustainable development achievement."

MARIE-HÉLÈNE LACROIX
Advisor – Community Relations
Direction régionale – Richelieu

Eastmain-1-A/Sarcelle/Rupert (Nord-du-Québec)

- Six Cree communities were visited for meetings with the tallymen and land users directly affected by the project to inform them about the follow-up on commitments and the work carried out in their area. The Crees are consulted at every stage of development of the follow-up measures and participate in implementing many of them.
- The company worked with Niskamoon Corporation, whose role is to manage the funds provided under agreements with the Crees, and participated in the Corporation's environmental internship program that enables young Crees (aged 18 to 35) to learn about environmental work done during the summer.

Employment and training

- Two new permanent Cree employees were hired, bringing the total number of Crees working for Hydro-Québec in Baie-James to 45.
- Hydro-Québec purchased $83 million in goods and services from Aboriginal companies, organizations and independent workers. Work for Société d'énergie de la Baie-James was valued at $186 million.
- 140 employees, compared to 89 in 2009, received training about Aboriginal nations and communities, and the company's business relations with them. This increase is the result of training provided at the Romaine jobsite in accordance with Hydro-Québec commitments.
- High school students in Innu communities affected by the Romaine project were given a presentation on employment possibilities with Hydro-Québec. (Côte-Nord)

INTEGRATED ENHANCEMENT PROGRAM

To compensate for the residual impacts of its new transmission projects, particularly those related to landscape, Hydro-Québec pays 1% of the initial authorized value of the planned facilities to the affected communities under its Integrated Enhancement Program (IEP). The company provides financial support for local initiatives to improve the environment and municipal, community or recreational facilities, and for tourism and regional development or development in Aboriginal communities.

Since the IEP was created in 1985, Hydro-Québec has invested $108.6 million in 1,061 initiatives. *www.hydroquebec.com/municipal/pmvi.html* (Available in French only)

2010 HIGHLIGHTS

- Outaouais substation: $3.6 million was contributed to the municipality of L'Ange-Gardien to build a multipurpose centre, a fire hall and an artificial-turf soccer field. (Outaouais)
- 230-kV Goémon – Mont-Louis – Gros-Morne line: $1.1 million was shared by the RCM of La Haute-Gaspésie and eight municipalities to improve multipurpose centres, clean up a municipal lot and develop campgrounds, among other projects. (Gaspésie–Îles-de-la-Madeleine)

Funding and financial commitments under the Integrated Enhancement Program

	2007	2008	2009	2010[a]
Number of initiatives	24	8	26	32
Hydro Québec funding ($'000)	4,533.8	208.2	1,652.7	5,910.3
Community funding ($'000)	2,866.9	106.6	1,719.3	2,932.5
Project value ($'000)	7,400.7	314.8	3,372.0	8,842.8

Hydro-Québec's annual funding varies depending on the number of transmission projects in progress. The amount increased substantially in 2010 because of the large sum allocated for construction of Outaouais substation.

a) LBG Canada has confirmed that, according to its criteria, Hydro-Québec's contribution in 2010 constitutes community investments.

FONDATION HYDRO-QUÉBEC POUR L'ENVIRONNEMENT

Since its creation in 2001, the Fondation Hydro-Québec pour l'environnement has helped Québec communities develop a sense of ownership of their environment, enjoy it responsibly and preserve their natural heritage for future generations. To date, the Foundation has contributed $9.7 million to 160 projects.

2010 HIGHLIGHTS

- $14,500 was allocated to a project to enhance user awareness regarding an Important Bird Area (IBA) along the Baie des Sept Îles that encompasses the Sept Îles archipelago and bay and Checkley plain, a large peatland located at Pointe-Noire. This project, carried out in conjunction with the community, included the development of a sound-practices guide to protect the bay and preserve the birds' tranquility, which is threatened by passing pleasure boats and tourism operations. The guide provides a list of bird species that are at risk, a description of the IBA and its history, an explanation of the importance of this habitat and examples of ways to enhance the bay and protect its birds.

http://www.hydroquebec.com/fondation-environnement/en

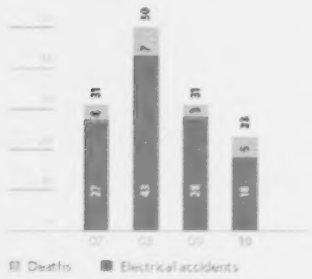
MULTIPURPOSE USE OF FACILITIES

Hydro-Québec is the second-largest property owner in Québec, after the provincial government. The company encourages multipurpose, safe use of its equipment and properties by third parties as long as operations, safety and profitability are not compromised.

2010 HIGHLIGHTS

- We signed 200 contracts for public or private use of Hydro-Québec property around its facilities. In addition to construction of roads, water mains and sewers, and development of public parks and park and ride lots for public transit, the company allows the use of its rights-of-way for certain residential and business purposes.
- Beauharnois-Salaberry RCM was authorized to develop a bicycle-path rest stop near Beauharnois canal and another in the municipality of Saint-Étienne-de-Beauharnois. (Montérégie)
- The municipalities of Price and Grand-Métis and the Société d'exploitation des ressources de la Métis were granted permission to develop a hiking trail between Mitis-1 and Mitis-2 generating stations. (Bas-Saint-Laurent)

ELECTRICITY-RELATED ACCIDENTS AMONG THE PUBLIC (NUMBER)



Deaths – source: Bureau du coroner.
Electrical accidents – source: external data compiled by Hydro-Québec

PUBLIC HEALTH, SAFETY AND SECURITY

In addition to making security at its facilities a priority—the number-one customer expectation—Hydro-Québec employs numerous methods to educate the public about how to use electricity safely in various situations. The company also studies the potential effects of electric and magnetic fields, and the impacts of mercury on fish consumers' health.

2010 HIGHLIGHTS

- A score of 99% was achieved on the 700 safety compliance audits of equipment condition and use, and security systems at various facilities.
- A security awareness campaign resulted in 2,613 calls from employees (2,028 in 2009) reporting situations that posed a safety or security risk.
- A television campaign boosted homeowner awareness of the hazards of using ladders near electrical wires.

www.hydroquebec.com/security

- We participated in two studies that will enhance knowledge of biological action mechanisms and determine exposure limits for electric and magnetic fields.

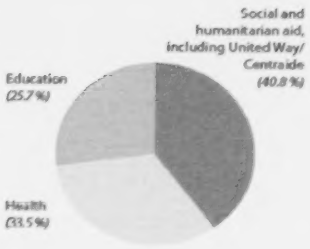
www.hydroquebec.com/sustainable-development/champs

Commitments of the Fondation Hydro-Québec pour l'environnement

	2007	2008	2009	2010
Number of projects supported	15	20	19	15
Number of regions involved	8	12	11	9
Amount granted ($'000)	1,493	1,302	1,021	957

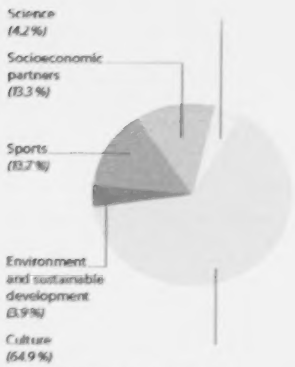
Hydro-Québec exhibition booth at the Eureka Festival. Facilitator Santi Sananikone explains the importance of biodiversity preservation to young visitors.

BREAKDOWN OF DONATIONS



The annual budget for donations and sponsorships is around 1% of net income from continuing operations.

BREAKDOWN OF SPONSORSHIPS[a]



a) Excludes funding by the Fondation Hydro-Québec pour l'environnement.

SUPPORT FOR ORGANIZATIONS AND THE ARTS

Hydro-Québec contributes to social and cultural vitality and to community well-being by supporting activities in all different fields: culture, health, social and humanitarian causes, education and youth, socioeconomic development, sports and the environment. Every year, the company returns part of its profit to the Québec public, for example by matching the amount contributed by employees and pensioners to the United Way/Centraide campaign.

Realizing the importance of its role in promoting Québec visual arts, Hydro-Québec earmarks $200,000 annually for the purchase of works by the province's artists to help make their art more widely known. The company owns over 1,000 works by some 500 Québec artists of various origins. The artwork is displayed in its administrative buildings across the province.

2010 HIGHLIGHTS

› Donations and sponsorships totaled $18.3 million,[1] including $2.9 million for United Way/Centraide which was added to the $2.9 million contributed by company employees and pensioners. For the breakdown of donations and sponsorships in 2010, see the Hydro-Québec Web site.
www.hydroquebec.com/publications/en/donation-sponsorship/sponsorships-granted.html

› 21 works of art (photographs, paintings, prints) by 12 artists were acquired.

SHARING AND DISSEMINATING EXPERTISE

Hydro-Québec endeavors to share the expertise it develops in such varied fields as high-voltage transmission, energy efficiency and environmental management in northern regions. Expertise is shared through scientific papers as well as in activities that educate young people and the general public.

International activities

Hydro-Québec intends to maintain its reputation for excellence among foreign governments and national and international institutions by promoting its sound practices and being socially and environmentally responsible.

In this way, the company supports Québec's international image and aids international development by sharing technical and management know-how.

2010 HIGHLIGHTS

› Hydro-Québec hosted the 21st World Energy Congress with the theme *Responding Now to Global Challenges - Energy in Transition for a Living Planet*. More than 7,000 participants addressed such topics as sustainability in the energy sector and universal access to energy for equitable economic and social development.

› The company took part in the 43rd Session of the International Council on Large Electric Systems (CIGRÉ) in Paris. This event drew more than 3,000 delegates and visitors from around the world for a program focusing on issues related to developing and adapting interconnections, environmental impact analysis and power transmission equipment longevity.

› During the e8 summit held in May, a working group headed by Hydro-Québec tabled a report describing e8 members' current electric mobility projects and business models, and the conditions required to successfully speed up worldwide introduction of electric vehicles.

Youth awareness

Hydro-Québec fosters the development of young students by designing educational kits on electricity and making them available to teachers. Various aspects are covered, including the environment, sustainability, energy efficiency, jobs with future prospects, electrical safety and facility tours. These teaching kits are tailored for various academic levels, from kindergarten to high school, and are provided free of charge.
www.hydroquebec.com/teachers

1. LBG Canada has confirmed that, according to its criteria, 94% of the donations and sponsorships granted in 2010 constitute community investments. The balance is given to various groups to support all sorts of activities.

▼ *Under the initiative "Les Filles et les sciences : un duo électrisant!" engineer Nicole Gahamanyi helps teenage girls discover the world of science and technology.*

▶ *Exhibition area at the 21st World Energy Congress held in September 2010: Hydro-Québec was co-organizer and the main sponsor.*

2010 HIGHLIGHTS

- An educational kit, *Les Zénergétics – À la découverte de l'énergie et de l'environnement*, was distributed to 63,780 students aged 10 to 12. The kit shows youngsters how to compare the world's five main energy options according to environmental and sustainability criteria.
- The *Envirovolt* game kit was distributed to 7,418 children aged 9 to 12 in cooperation with the Réseau CDLS-CLS. The game invites the children to design an ideal power system that has the fewest possible impacts on the environment.
- The *00Watt* Classroom Toolkit was distributed to over 18,000 10- to 12 year olds. The kit uses school experiments to teach children about saving energy.
- A contest and two editorial features published in *Les Débrouillards* magazine discussed the environmental follow-ups for the Romaine and Toulnustouc hydroelectric development projects.
- 86,250 workbooks were given to preschoolers and elementary school students to teach them about the potential hazards of improper use of electricity.

Exhibitions and conferences

Hydro-Québec takes advantage of opportunities to talk to the public about major environmental issues related to the construction and operation of hydroelectric developments, as well as about its environmental and sustainability achievements. This personalized approach also brings it closer to its customers so that it can listen to their concerns.

University conferences give Hydro-Québec a chance to discuss environmental and sustainability issues with specialized customers.

WORLD ENERGY CONGRESS – MONTRÉAL 2010 IN FIGURES

- **More than 7,000 participants from 130 countries**
- **300 speakers**
- **450 scientific, technical and other presentations**
- **Over 50 energy ministers**
- **Spinoffs of $30 million**

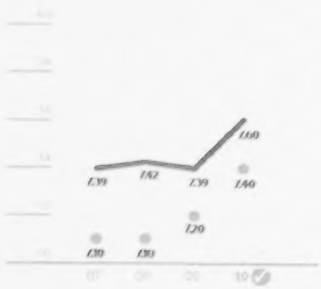
2010 HIGHLIGHTS

- The company participated in 34 events and manned booths with numerous themes related to sustainability and energy efficiency. Tens of thousands of people attended these events.
- At the 2010 Eureka Festival (Montréal), an interactive game and equipment parts were used to explain the measures implemented by Hydro-Québec to protect biodiversity during its activities. About 4,000 people visited the Hydro-Québec booth.
- Nearly 50 presentations were made at Québec universities and colleges on topics including comparison of energy options, lessons learned from 40 years of environmental studies, sustainability, social responsibility and greenhouse gas emissions from reservoirs. About 2,000 students attended these talks.

CUSTOMERS

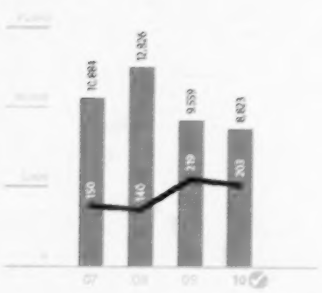
Hydro-Québec participates in various events to inform people about its services, such as those related to energy efficiency.

OVERALL CUSTOMER SATISFACTION INDEX – OTHER THAN LARGE-POWER CUSTOMERS (SCALE OF 10)



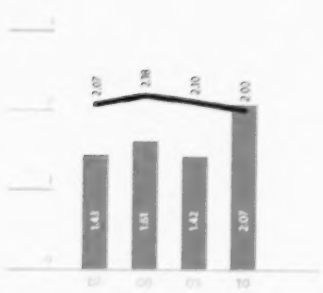
- Overall satisfaction index
- Target

CUSTOMER COMPLAINTS AND CLAIMS (NUMBER)



- Complaints and claims
- Appeals to the Régie de l'énergie

SYSTEM AVERAGE INTERRUPTION FREQUENCY AND DURATION



- System Average Interruption Frequency Index – SAIFI (number per customer)
- System Average Interruption Duration Index – SAIDI (hours)

Rate stability and lower electricity bills attributable to warmer winter weather had a positive impact on customer satisfaction with rates and other expectations.

In 2010, more than 50% of the 203 appeals filed with the Régie de l'énergie concerned billing. A total of 3,462 claims were processed, compared with 3,929 in 2009. This 12% reduction can be explained by the absence of major weather events and major grid-overvoltage phenomena. The percentage of claims processed within 30 days remained stable at 86%.

In 2009, the Canadian Electricity Association members' System Average Interruption Frequency Index (SAIFI) was 2.0 and the System Average Interruption Duration Index (SAIDI) was 4.2.

RESIDENTIAL, COMMERCIAL AND BUSINESS CUSTOMERS

In 2010, the economy rebounded more vigorously in Québec than in the rest of North America. Sustained business activity and investment renewal gave rise to higher than expected sales to our commercial and industrial customers.

Despite the more favorable economy, many residential customers had payment difficulties that required increased collection activity.

2010 HIGHLIGHTS

- In March, the Régie de l'énergie approved an across the board rate increase of 0.35% to take effect on April 1, 2010. For the period from April 1, 2011, to March 31, 2012, the Régie asked Hydro-Québec for an estimated across the board rate decrease of 0.41%. This reduction was made possible by the company's efforts to control operating expenses and improve its efficiency.
- A pilot project was launched to test computer system compatibility with an advanced metering infrastructure. This first step will be followed in 2011 by the testing of 27,000 smart meters. The ultimate aim of the project is to replace some 3.7 million meters that will soon reach the end of their service life. The advanced metering infrastructure project will support real-time facility and load management, remote service interruption and restoration, and detection and verification of energy theft.
- On March 31, the *Time It Right* rate project that began in December 2008 ended. The project's goal was to study the impact on power consumption habits of a variable rate option based on time of day and season of use. With this type of rate structure, electricity is more expensive during peak demand periods and less expensive during off peak periods. The project concluded that only modest savings were realized by the participants, corroborating the results of similar pilot projects in the United States and Europe. Hydro-Québec will review the offer of an optional dynamic rate system in the coming years.
  www.hydroquebec.com/residential/tarif-residentiel.html ("Time It Right" rate project)
- The average telephone response time was 137 seconds (190 in 2009 and 379 in 2008). Our goal is a response time in line with the average for the North American electricity sector.
- More than 36,000 residential disconnections were made for default on payment. Winter service (December 1 to March 31) was continued or restored for residential customers with electric heating who were having difficulty with payments.
- An additional 76,717 customers chose to receive online bills; a total of 38,33,483 bills are not printed by Hydro-Québec every year.

COMMITMENT TO LOW-INCOME CUSTOMERS

Hydro-Québec has earmarked $27.7 million in 2011 to support its commitment to low-income customers. This amount is divided as follows:

- **$15.3 million for energy efficiency measures for these customers, including $7 million for a new initiative to replace power-guzzling refrigerators**
- **$12.4 million for collection services and services for low-income customers**

LOW-INCOME CUSTOMERS AND THOSE WITH PAYMENT DIFFICULTIES

To improve services to low income customers, Hydro-Québec works with community groups. Since 2000, a working group has experimented with new approaches so more suitable services can be offered to these customers. This group, which facilitated the introduction of long-term payment arrangements, met 10 times in 2010. A dedicated telephone line is also available so that consumer associations and elected representatives' offices can advise Hydro-Québec of customers in very precarious situations and the company can offer them payment arrangements tailored to their circumstances.

Since 2006, a joint Hydro-Québec/consumer associations working group has monitored the implementation of possible solutions. This monitoring will continue until 2011 to improve products and services available to low income households. The working group met twice in 2010.

2010 HIGHLIGHTS

- 41,161 payment arrangements were reached with low-income customers for a total of $213.6 million, including 4,420 long term arrangements amounting to $5.4 million that offer debt reduction and, if necessary, a reduction in the current energy cost.
- For residential customers overall, payment arrangements helped to settle 174,108 overdue accounts totaling $403.5 million.
- Over a hundred employees participated in a day-long workshop on poverty and the prejudices it engenders to help them understand payment collection in a context of poverty.

Portfolio of collection solutions

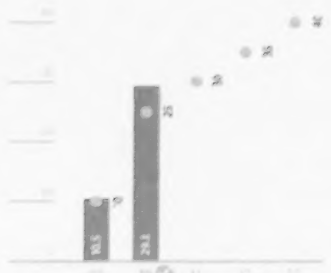
	2007	2008	2009	2010	2011	2012
Arrangements for low-income customers (number)	22,670	21,909	32,107	41,161		
Target	–	–	22,200	23,800	24,700	24,800

The difficult economic conditions in 2009 meant that collection activities increased. In 2010, new eligibility criteria enabled more customers to benefit from personalized agreements.

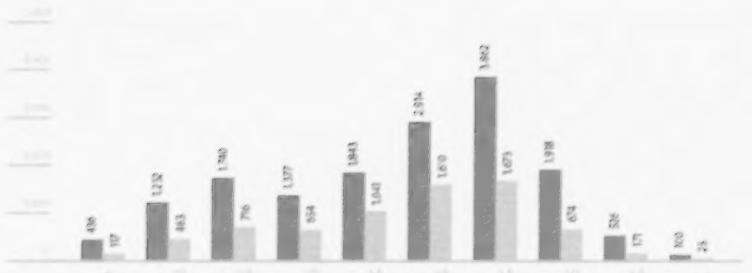
HUMAN RESOURCES

Engineer Yves Gosselin mentors interns Maxime Nadeau and Alexandre Gélinas, both undergraduates studying mechanical engineering.

SUSTAINABILITY TRAINING (%)



EMPLOYEE AGE PYRAMID IN 2010 (NUMBER)



To harmonize with the public administration as a whole, the 40% employee training objective, initially set for 2011, was pushed back to 2013, the last year of the Action Plan.

In 2010, 36.8% of the 3,145 employees eligible for retirement left the company and 1,794 new employees were recruited. About 70% of the new hires were under 35 years of age.

WORK ENVIRONMENT

In a context marked by massive retirement, Hydro-Québec is striving to maintain a productive work environment by focusing particularly on preservation of expertise and integration of new hires.

2010 HIGHLIGHTS

- The collective agreement with the Syndicat professionnel des ingénieurs d'Hydro-Québec was renewed—the last renewal to be signed with the company's eight unions until either December 2013 or December 2014; 84% of Hydro-Québec's employees are unionized.
- New hires rated their satisfaction at 8.4 out of 10, which is comparable to the ratings for the past two years.
- The sixth Action Plan for People with Disabilities was filed; it provides measures to reduce barriers to workplace integration.
www.hydroquebec.com/publications/en/action_plan
- In all, 846 employees and 250 managers attended training sessions on harassment prevention.
- During the 23rd Environment Month, celebrating 40 years of environmental activities, employees took a total of 4,769 actions to improve the environment at the office as well as in the areas of transportation and energy use.
- The Fondation de l'athlète d'excellence du Québec awarded 34 Hydro-Québec bursaries, including four to children of employees.[1] The foundation gives out 30 to 40 bursaries of $1,500 and $4,000 annually.

HEALTH AND SAFETY

Hydro-Québec is committed to being proactive in health and safety and providing a healthy, safe work environment for its employees.

2010 HIGHLIGHTS

- The company began introduction of a company-wide system of occupational health and safety management standards.
- The work-related accident frequency rate was 2.40 per 200,000 hours worked.
- Three Hydro-Québec employees died while in transit to a jobsite and four employees of contractors died while working on company jobsites.
- Occupational health and safety training and awareness, and health promotion activities involved 16,876 participants.
- The confidential employee assistance service, available free of charge, had a usage rate of 7.92%, compared to 7.64% in 2009.

SKILLS DEVELOPMENT AND SUCCESSION PLANNING

To fulfill its mission, Hydro-Québec must be able to rely on a great many highly specialized employees. The aim of its succession management plan is to preserve the required expertise despite the large number of employees who are becoming eligible for retirement. The company also counts on continuous employee training to maintain a qualified workforce.

2010 HIGHLIGHTS

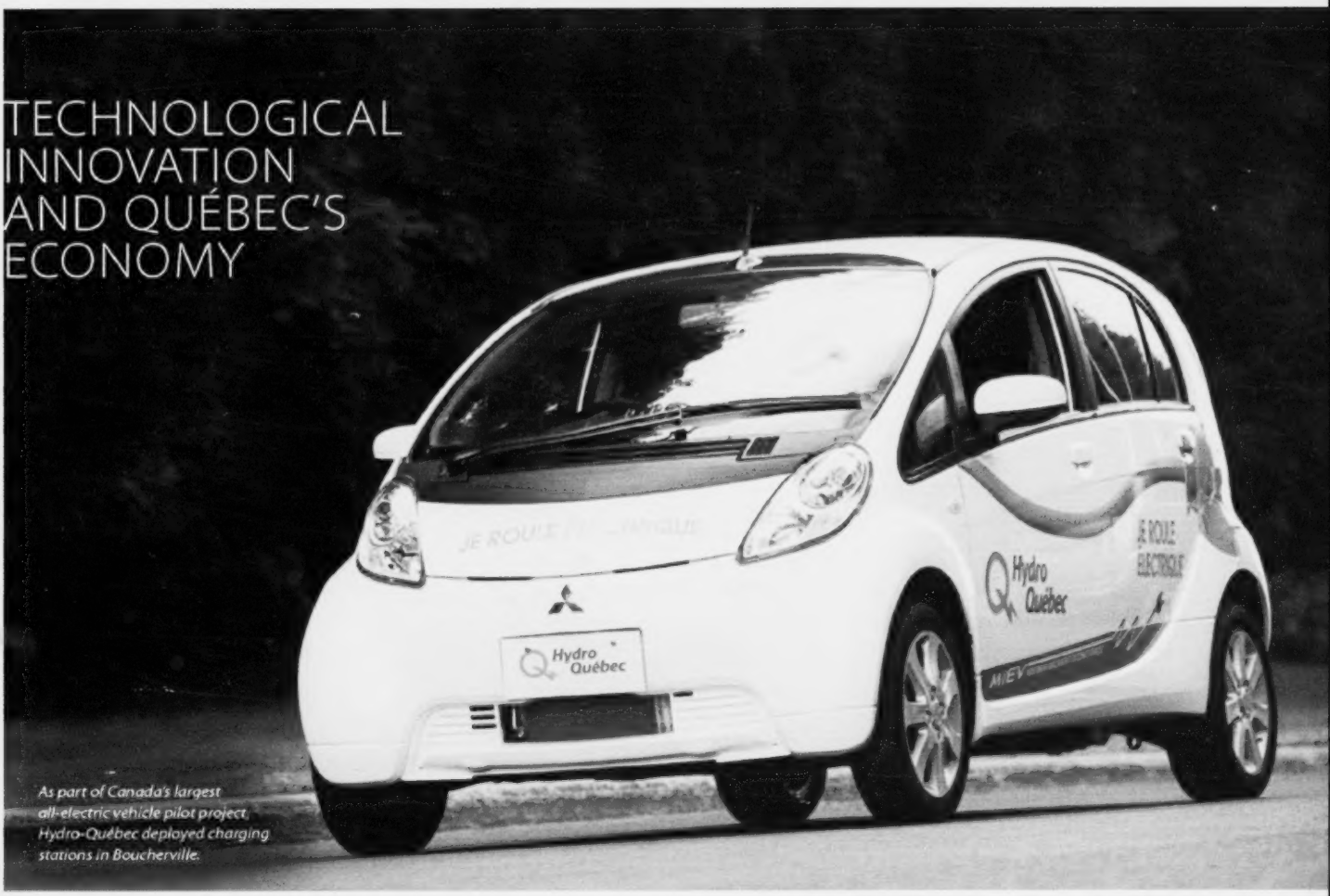
- Employee training program funding was 3.5% of the payroll.
- All employees can take self-guided training to learn the relevant concepts in Québec's Government Sustainable Development Strategy. A total of 1,146 people registered in 2010.
- Annual internal survey: about 56% of employees said they have an excellent or good understanding of the concept of sustainability. Because the survey method was modified, this result cannot be compared with previous years' results.
- Fifteen general scholarships and 37 traveling scholarships were awarded to 41 students at the Institute of Electrical Power Engineering (IFPI), for a total of $96,750. The company has recruited 144 IFPI graduates since the Institute was established in 2001; 17 were recruited in 2010.
- Internships were offered to 403 university undergraduate and graduate students, and 54 internships were awarded to college-level students, most of whom are enrolled in industrial electronics.
- Training for managers and human resources personnel was developed for the Equal Access to Employment Program, which targets five groups: women, Aboriginals, ethnic minorities, visible minorities and handicapped persons.
www.hydroquebec.com/emplois/diversite.html
(Available in French only)
- Eleven recent immigrants participated in a two-day human resources professional networking event.

1. LBG Canada has confirmed that, according to its criteria, Hydro-Québec's contribution constitutes community investments.

Hydro-Québec workforce – Some statistics

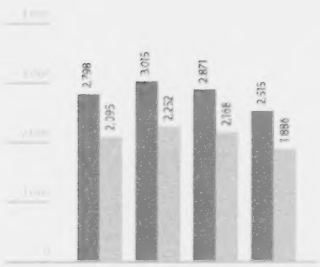
	2007	2008	2009	2010
Permanent workforce (number)	19,459	19,297	19,536	19,521
Average age	45.7	45.6	45.4	45.2
Target group representation (%)				
Women	31.3	30.9	30.6	30.9
Aboriginals	0.7	0.7	0.8	0.8
Ethnic minorities	1.0	1.0	1.0	1.2
Visible minorities	1.9	2.0	2.2	2.6
People with disabilities	1.5	1.4	1.3	1.2

TECHNOLOGICAL INNOVATION AND QUÉBEC'S ECONOMY



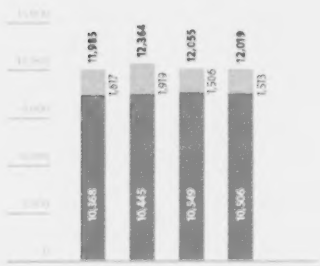
As part of Canada's largest all-electric vehicle pilot project, Hydro-Québec deployed charging stations in Boucherville.

NET INCOME AND DIVIDEND (M$)



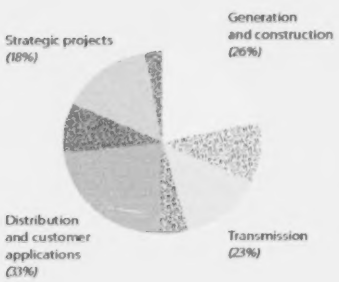
Net income
Dividend

REVENUE FROM ELECTRICITY SALES (M$)



Revenue from electricity sales in Québec
Revenue from electricity sales outside Québec

BREAKDOWN OF INNOVATION EFFORTS BY HYDRO-QUÉBEC'S RESEARCH INSTITUTE IN 2010 (BY AMOUNT INVESTED) (%)



[33] Percentage of amount invested in innovation projects related to sustainability

In spite of difficult conditions as a result of precipitation levels considerably lower than the historic mean across the entire hydroelectric generating fleet, net income in 2010 exceeded the $2,400-million target in the *Strategic Plan 2009–2013*. This positive result reflects strict control over operating expenses and higher-than-expected demand for electricity from industrial customers in Québec.

Overall, the proportion of innovation projects contributing to sustainability is 35% per year.

TECHNOLOGICAL INNOVATION

The only major research centre in North America operated by a power utility, Hydro Québec's research institute, IREQ, celebrated its 40th anniversary in 2010. With an annual budget of about $100 million, IREQ enables the company to innovate and invest in leading-edge technology. Spinoffs generated by our innovation projects from 2009 to 2013 are estimated at $214 million.
www.hydroquebec.com/innovation/en/index.html

2010 HIGHLIGHTS

- We organized the first International Conference on Applied Robotics for the Power Industry (CARPI 2010); it was held in Montréal and attended by over 150 experts from 22 countries.
- The 15th International Meeting on Lithium Batteries (IMLB) that we hosted in Montréal drew 1,100 participants from many different countries.
- The Edison Award was bestowed on the British Columbia Transmission Corporation and Hydro-Québec for their joint development of the LineScout robot and the technology's contribution to power industry progress. Designed and developed by IREQ, the LineScout is used to inspect live transmission lines.

TRANSPORTATION ELECTRIFICATION

With an eye to the future of ground transportation electrification, Hydro Québec is building on such considerable assets as clean, renewable energy, a reliable system, acknowledged expertise and promising technology.
www.hydroquebec.com/transportation-electrification

2010 HIGHLIGHTS

- Battery development saw spectacular progress:
  - enhanced energy and power performance
  - battery life increased from 20,000 to 30,000 charge/discharge cycles.
  - a full 16-kWh battery recharge in four minutes using a quick-charge station
- Hydro Québec subsidiary TM4 delivered nearly a hundred power trains to Indian automaker Tata Motors for demonstration projects in the United Kingdom and Norway.

"More than ever, we must all work together to find a sustainable approach that reconciles economic growth, environmental protection and greater equality. We have what it takes to do this. The technologies we need are at hand.

The challenge for all of us is sustainable growth. To meet this challenge, we must cooperate and promote open dialogue among all stakeholders."

PIERRE GADONNEIX
Chairman, World Energy Council

Examples of sustainable development innovation projects – 2010

PROJECT	ACHIEVEMENT	INVESTMENT
Technology – migration of aquatic species	Study of migration barrier technologies to reduce mortality of American shad during their annual migration Analysis of methods to keep downstream-migrating eels away from water that is being channeled through turbines Study of technologies for monitoring salmon parr during reservoir impoundment at the future Romaine complex	$0.99 million
Reduction of the environmental impact of treated wood poles	Optimization of the performance/cost ratio for new filtration technologies for water contaminated by preservatives leached from treated wood poles in storage yards	$1.06 million
Hydrologic modeling tools	Improvement of modeling tools that factor in environmental constraints related to river flows at different times of year	$3.26 million
❷ Numerical Turbine Production (SAMH) project	Project to model and simulate the behavior of generating units under various operating conditions to enhance generating fleet performance and reliability	$2.10 million
❶ Modeling of wind farm behavior and simulation of the impact of wind power on the grid	Modeling and simulation to facilitate wind power integration into the grid by verifying the grid's current capacity to receive this new output	$0.92 million

LAND TRANSPORTATION AND ATMOSPHERIC EMISSIONS

In Québec, the transportation sector emits the most GHGs: 35.8 million tonnes (43.6%) in 2008.

Source: National Inventory Report 1990 - 2008, Environment Canada

› For Canada's largest all electric vehicle pilot project, Mitsubishi Canada delivered the first five i MiEV vehicles and Hydro Québec deployed charging stations in Boucherville. As many as 50 Mitsubishi i MiEVs will be tested under real-world conditions.

› Under a partnership with Chevrolet Canada, Hydro-Québec will add 20 Chevrolet Volts to its fleet.

› Hydro-Québec, with the Québec government and Université Laval, joined a Canadian program to test the Toyota Prius Plug-in Hybrid under real-world conditions; the company is also participating in a North American test program for plug-in hybrid electric vehicles, initiated by Ford and the Electric Power Research Institute.

› Hydro-Québec undertook to roll out a charging infrastructure in the Montréal and Québec areas for 50 Nissan LEAFs that will be added to the fleet of Communauto, one of the world's largest car-sharing services.

› The company signed a memorandum of understanding with the Renault-Nissan Alliance, the Québec government, the cities of Montréal and Québec, and Québec's Agence de l'efficacité énergétique to establish a working group that studied the planning of an electric vehicle charging infrastructure and the promotion of electric mobility in Québec.

› A study on the introduction of a trolleybus system in Laval was completed and two studies continued on the electrification of Montréal's commuter trains and the introduction of a streetcar system in Montréal.

› A feasibility study was conducted for a proposed electric rail shuttle between Montréal–Trudeau Airport and downtown Montréal, as well as electric bus demonstration projects.

QUÉBEC ECONOMY

In Québec, the value added by the power generation, transmission and distribution industry was estimated at $11.8 billion in 2010,[1] with Hydro-Québec accounting for about 95% of the industry. The company's share of the Québec economy is around 4%[2] of the gross domestic product. A report is available (in French only) on Hydro-Québec's presence and the impact of its operations in each of Québec's 17 administrative regions.
www.hydroquebec.com/publications/en/profil_regional

With regard to procurement of goods and services, Hydro-Québec abides by five main principles: secure supply, sustainability, quality, efficiency and economic spinoffs in Québec. When there is sufficient competition, only suppliers with locations in Québec may tender bids. As a result, over 90% of the company's goods and services are purchased in Québec.

Except for strategic contracts for which Hydro-Québec strives to maintain competitive expertise in Québec, all goods and services are obtained through an open (over $100,000) or closed ($100,000 and under) tendering process.

2010 HIGHLIGHTS

› Procurement of goods and services inside and outside Québec totaled $2,998 million ($2,925 million in 2009):
- purchase of goods: $1,321 million
- rental and leasing: $75 million
- specialized services and other work: $1,174 million
- professional services: $428 million

› Regional economic spinoff committees composed of Innu and local communities in Minganie held meetings, local businesspeople were mobilized, the procurement plan was adjusted to benefit local businesses and a special feature on the Romaine project was circulated in Côte-Nord region weekly newspapers.

› A Baie-James workforce inventory was undertaken in cooperation with the Conférence régionale des élus de la Baie-James: 80 candidates who met job requirements were identified, 60 interviews were held, 40 candidates were listed in a job bank for the Nord-du-Québec and 11 of them were hired.

1. Institut de la statistique du Québec.
2. Excluding Hydro-Québec's construction and R&D activities, and its subsidiaries' operations.

Hydro-Québec's contribution to the Québec economy

	2007	2008	2009	2010
Capital tax ($M)	278	202	132	51
Public utilities tax ($M)	240	302	188	262
Water power royalties ($M)	263	546	567	557
Municipal, school and other taxes ($M)	35	37	35	35
Procurement of goods and services (inside and outside Québec) ($M)[a]	2,586	2,660	2,925	2,998
Percentage of goods and services procured from Québec companies (%)	94	89	87	91
Direct jobs supported by procurement, including procurement outside Québec (person-years)	13,000	11,462	12,333	13,750

a) Excludes procurement by Société d'énergie de la Baie James.

FINANCIAL RESULTS

Hydro-Québec put in a solid performance in 2010, despite a difficult economy marked by precipitation well below the historical mean that affected the entire hydroelectric generating fleet. The company's net income was $2,515 million, exceeding the *Strategic Plan 2009–2013* projection of $2,400 million. The dividend paid to the Québec government for 2010 will be $1,886 million.

Net exports accounted for 7% of net sales volume and 11% of net income. The unit contribution of net exports rose to 8.2¢/kWh from 6.8¢/kWh in 2009.

INDUSTRIAL TOURISM

To make its activities better known and stimulate local tourism, Hydro-Québec welcomes visitors to 13 of its facilities, at no charge.
www.hydroquebec.com/visit/index.html

SUPPORT FOR UNIVERSITIES

To encourage knowledge advancement in science and technology, Hydro-Québec and its research institute act as major research partners for Québec universities.
www.hydroquebec.com/innovation/en/soutien-chaires-universitaires.html

Visitors to Manic-5-PA generating station in the Côte-Nord region, where a dozen hydroelectric generating stations are located.

Number of visitors to Hydro-Québec facilities

FACILITIES	2007	2008	2009	2010
Facilities for the general public[a]	60,852	62,303	66,112	61,415
Facilities for the general public operated as partnerships[b]	80,425	70,051	72,799	75,645
Research and development facilities[c]	6,765	1,529	3,038	2,902
Total	**147,543**	**133,883**	**141,949**	**139,962**

a) Facilities that the general public can visit free of charge.
b) Sites managed in partnership that are open to the general public but charge an entrance fee.
c) Sites that have no tourism infrastructure or staff and are not open to the general public (examples are Hydro-Québec's research institute, IREQ, and its energy technologies laboratory, LTE).

Contributions, commitments, chair endowments and research contracts ($'000)

EDUCATIONAL INSTITUTION OR RESEARCH GROUP	2007	2008	2009	2010
Université de Montréal	536.3	564.9	213.2	244.7
HEC Montréal	306.9	77.5	45.0	31.0
École Polytechnique de Montréal	1,005.8	912.0	817.2	454.8
Université du Québec en Abitibi-Témiscamingue	22.5	10.5	72.4	51.4
Université du Québec à Chicoutimi	237.5	400.0	225.0	325.4
Université du Québec à Montréal	691.9	906.8	1,643.4	1,521.6
Université du Québec en Outaouais	125.0	164.3	184.4	125.0
Université du Québec à Rimouski	174.0	100.0	50.0	35.0
Université du Québec à Trois-Rivières	395.8	356.4	300.0	300.0
École de technologie supérieure	375.9	348.9	456.6	440.0
Institut national de recherche scientifique	120.0	71.8	196.5	38.5
Fondation universitaire de l'Université du Québec	50.0	–	25.0	0.0
McGill University	348.0	596.0	988.0	1,200.0
Concordia University	345.5	320.0	527.0	608.0
Université Laval	1,389.5	1,382.8	1,149.6	1,300.6
Université de Sherbrooke	923.0	700.0	556.7	526.9
Ouranos, Cirano and Institute of Electrical Power Engineering	1,179.9	1,572.1	1,690.8	1,706.8
Institutions outside Québec	152.8	408.6	453.8	895.8
Total	**8,380.3**	**8,892.5**	**9,599.5**	**9,805.4**

GLOBAL REPORTING INITIATIVE INDEX

All Global Reporting Initiative performance indicators, including the Electrical Utility Sector Supplement, are dealt with fully on the Hydro-Québec Web site at: *www.hydroquebec.com/sustainable-development/gri*

The following list shows the indicators that are also covered in the *Sustainability Report 2010*.

Disclosure Number[a]	G3 Indicator	Page
ECONOMIC PERFORMANCE INDICATORS		
EC1	Economic value generated and distributed	30–32, 40, 43
EC2	Climate change	3, 12, 14, 16
EC6	Procurement from local suppliers	40, 43
EC7	Local hiring	29–30, 37, 40
EC8	Infrastructure investments that benefit local communities	30
EC9	Indirect economic impacts	17–19, 30–31, 40–41, 43
ENVIRONMENTAL PERFORMANCE INDICATORS		
EN1	Materials used by weight or volume	26
EN2	Use of recycled materials	20, 26
EN3	Direct energy consumption	15
EN5	Internal energy efficiency	12, 14
EN6	Energy efficiency of products and services	11–14
EN7	Reduction of indirect energy consumption	20–21
EN11	Land near biodiversity areas	17–19, 24–25
EN12	Description of impacts on biodiversity	17–19, 24–25
EN13	Habitats protected or restored	17–19, 24–25
EN14	Management of impacts on biodiversity	17–19, 24–25
EN15	Number of threatened species with habitats in areas affected by the organization's operations	25
EN16	Greenhouse gas (GHG) emissions	21–22, 43
EN17	Other relevant GHG emissions	21–22, 43
EN18	Initiatives to reduce GHG emissions	14, 20–21, 39–40
EN20	Emissions of NO_x, SO_2 and other pollutants	21–22
EN22	Total quantity of waste	26
EN23	Number and volume of spills	43
EN26	Environmental impact management	24, 26
EN28	Non-compliance with environmental regulation	24, 43
EN29	Environmental impacts of transportation	20–21, 39–40
SOCIAL PERFORMANCE INDICATORS		
Labor Practices and Decent Work		
LA1	Total workforce	43
LA2	Employee turnover	36, 43
LA4	Employees covered by collective bargaining agreements	37
LA7	Work-related injuries, diseases and absenteeism	37
LA8	Assistance with serious diseases	37
LA10	Training	37
LA11	Skills development and training	37
LA13	Diversity and equal opportunity	37
Society		
SO1	Management of impacts on communities	28–32
Product / Service Responsibility		
PR1	Life-cycle analysis for health and safety of products/services	31
PR5	Measurement of customer satisfaction	34
PR8	Customer privacy	8

Disclosure Number[a]	G3 Indicator	Page
ELECTRIC UTILITY SECTOR SUPPLEMENT		
Company Profile		
EU1	Installed capacity	45
EU2	Net energy output	45
Economy – Management Approach		
EU6	Short- and long-term electricity supply	12
EU7	Demand-side management programs	12–14
EU8	Research and development activity and expenditure	38
Social – Society – Management Approach		
EU19	Stakeholder participation in decision-making process	28–29
Social – Product Responsibility – Management Approach		
EU23	Access to electricity and customer support services	35
EU24	Practices to address language and cultural barriers	35
Social – Product Responsibility – Performance Indicator		
EU25	Injuries and fatalities involving company assets	31, 37
EU27	Residential disconnections for non-payment	35
EU28	Power outage frequency	34, 43
EU29	Average power outage duration	34, 43

a) Disclosure number in bold: core indicator
Disclosure number in regular type: additional indicator

Global Reporting Initiative™

Statement
GRI Application Level Check

GRI hereby states that Hydro-Québec has presented its report "Sustainability report 2010" to GRI's Report Services which have concluded that the report fulfills the requirements of Application Level B.

GRI Application Levels communicate the extent to which the content of the G3 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3 Guidelines.

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

14 April 2011, Amsterdam

Nelmara Arbex
Deputy Chief Executive
Global Reporting Initiative

B
GRI REPORT
GRI CHECKED

The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. www.globalreporting.org

Disclaimer: Where this relevant sustainability reporting includes external links, including to audio-visual material, this statement only confirms material submitted to GRI at the time of the Check on 17 March 2011. GRI expressly excludes any statement being applied to any later changes to such material.

OUR PERFORMANCE AT A GLANCE

	2007	2008	2009	2010
ENVIRONMENT				
Net electricity generated by Hydro-Québec (GWh)	162,062	164,678	166,809	160,733 ✓
Total net electricity generated and purchased (GWh)	208,156	206,603	203,181	203,842 ✓
Renewable energy/total energy generated and purchased (%)	93	97	97	94 ✓
Atmospheric emissions of GHGs from thermal electricity generation (t CO_2 eq.)	238,122	228,005	369,196	212,038 ✓
Atmospheric emissions of SO_2 from thermal electricity generation (t)	1,150	1,154	1,959	1,251 ✓
Atmospheric emissions of NO_x from thermal electricity generation (t)	6,205	6,132	6,710	5,965 ✓
Atmospheric emissions of GHGs from the vehicle fleet (t CO_2 eq.)	55,158	55,435	56,029	55,412 ✓
Production of low- and medium-activity radioactive waste (m^3/reactor)	16	39	90	81
Energy Efficiency Plan: energy savings (result/target) (GWh)	900/661	1,061/745	910/985	920 ✓/766
Employees governed by an environmental management system (number)	18,469	18,228	18,757	19,823 ✓
Environmental non-compliance notices (number)	32	31	20	51
Spills reported to the authorities (number)	624	586	531	746
Insulating oil recovered (thousands of litres)/internal reuse (%)	4,367/91.4	2,989/92.7	4,575/88.4	3,710/91.0 ✓
Area of transmission-line rights-of-way treated mechanically (%)	76	79	73	71 ✓
Area of dikes and dams treated mechanically (%)	48	40	51	73 ✓
New underground hookups (%)	28	30	32	36
SOCIAL				
Public satisfaction index (very and somewhat satisfied) (%)	92	93	91	92 ✓
Contracts and procurement – spinoffs for Aboriginals ($M)	237	310	358	269
Funding and financial commitments under the Integrated Enhancement program ($M)	4.5	0.2	1.7	5.9 ✓
Fondation Hydro-Québec pour l'environnement ($'000)/projects funded (number)	1,493/15	1,302/20	1,021/19	957/15 ✓
Donations and sponsorships ($M)[a]	24.7	25.9	22.5	18.3
Overall customer satisfaction index – other than Large-Power Customers (scale of 10)	7.39	7.42	7.39	7.60 ✓
Special payment arrangements for low-income customers (number)	22,670	21,909	32,107	41,161 ✓
Customer complaints and claims (number)	10,884	12,876	9,559	8,823 ✓
Permanent workforce as at December 31	19,459	19,297	19,536	19,521 ✓
Temporary workforce (annual average)	3,910	4,048	4,080	4,138 ✓
Work-related accident frequency[b]	3.24	3.29	2.83	2.40 ✓
Percentage of payroll invested in training	4.2	4.0	3.9	3.5 ✓
ECONOMY				
Electricity sales in Québec (TWh)	173.2	170.4	165.3	169.5
Revenue from electricity sales inside and outside Québec ($M)	11,985	12,364	12,055	12,019
Net income ($M)	2,798	3,015	2,871	2,515
Dividend ($M)	2,095	2,252	2,168	1,886
Water-power royalties ($M)	263	546	567	557
Total procurement of goods and services ($M)/Québec only (%)	2,586/94	2,660/89	2,925/87	2,998/91
Direct jobs sustained by all procurement, including purchases outside Québec (person-years)[c]	13,000	11,462	12,333	13,750
Interruption frequency index (IF) (number per customer)	1.43	1.61	1.42	2.07
Average interruption duration index (ID) (hours)	2.07	2.18	2.10	2.00
Capital tax ($M)	278	202	132	51
Public utilities tax ($M)	240	302	188	262
Municipal, school and other taxes ($M)	35	37	35	35
Funding for universities – contributions, chair endowments and research contracts ($M)	8.4	8.9	9.6	9.8 ✓

a) Includes Hydro-Québec's donation to United Way/Centraide *b)* New calculation method in 2010 *c)* Excludes procurement by Société d'énergie de la Baie James

GLOSSARY

Allégo
Program that promotes a full range of alternatives to single-occupant vehicle travel for commuting or urban transportation

average emissions
Average greenhouse gas emissions (either net or gross) for all submerged areas that supply Hydro-Québec's generating fleet

biomass
Organic matter composed of live plant matter, farm, forest or urban waste, or organic waste from water treatment or purification plants; it is a usable energy source like water, sun and wind

BIXI
Self-service bicycle-sharing service offered by the city of Montréal as a complement to public transit

CATVAR
Voltage regulation and reactive power control project designed to reduce energy consumption and losses on Hydro-Québec's distribution system

CF_4 (tetrafluoromethane)
Synthetic chemical compound and potent greenhouse gas that remains in the atmosphere for a long time

CO_2 (carbon dioxide)
The principal greenhouse gas, mostly generated by fossil fuel combustion

cogeneration
Method of simultaneously producing electricity and useful thermal energy (steam, hot water) from a fuel (coal, natural gas, biogas, biomass)

environmental impact assessment
Study that predicts, describes, organizes and evaluates the physical, chemical, biological, aesthetic, social and cultural effects of a construction project, and proposes measures to mitigate these effects

environmental follow-up
Process in which the occurrence of expected impacts and the validity of the models used are verified, along with the implementation and effectiveness of mitigation measures and the fulfillment of all other conditions required upon authorization of a construction project

gross emissions
Greenhouse gas emissions from a reservoir, measured at the reservoir surface over a given period

herbicide
Chemical or biological product that destroys vegetation or inhibits its growth

ichthyofauna
The fish in a given region or habitat

incidental take
Inadvertent destruction of migratory birds' nests or eggs

internal environmental assessment
Environmental management system component systematically used to incorporate environmental concerns into facility planning, construction and upgrades

net emissions
Difference between gross greenhouse gas emissions from a reservoir and natural emissions from land and water ecosystems present before impoundment

NO_x (nitrogen oxides)
Chemical compounds that contribute to the formation of smog and acidic deposits

parr
Young salmon between the fry and smolt phases that lives in freshwater before heading out to sea

primary energy
Energy found in nature that has not been subjected to any conversion or transformation process: some forms of primary energy are renewable (hydropower, solar, wind, geothermal energy, etc.) and others are not (coal, oil, natural gas, etc.)

public hearing
Session of the Bureau d'audiences publiques sur l'environnement (BAPE), open to the public, that is ordered by the Minister of the Environment or by the BAPE itself or requested by a person, group or municipality, involving a development project within the territory governed by Chapter I of the *Environment Quality Act*

public participation
Public involvement, as a stakeholder, in project development and public decision making that have an impact on health, lifestyle or the environment

right-of-way
Strip of land used for installation, operation, maintenance and protection of one or more power lines

SF_6 (sulphur hexafluoride)
Chemical compound widely used in heavy industry to insulate high voltage equipment; it is a powerful greenhouse gas

SO_2 (sulphur dioxide)
Chemical compound that contributes to the formation of acidic deposits

stakeholder
Individual or group that has an interest in an organization's decisions or operations

tallyman
Trapper who supervises other trappers and whose primary responsibility is managing animal populations within the trapline

value added
In national income accounting, new wealth generated by economic activity: the difference between the value of the goods or services created by the activity and the value of the materials used to produce the goods or services

windrowing
Creating heaped, uniform-width rows of wood debris from logging or clearing operations

TO COMMENT ON THIS REPORT

www.hydroquebec.com/sustainable-development

INDEPENDENT ASSURANCE STATEMENT

To Hydro-Québec Management

We have been mandated to review certain information contained in Hydro-Québec's *Sustainability Report 2010*, which covers the period from January 1st to December 31st, 2010.

Responsibility

Our responsibility consisted not in auditing but in reviewing certain quantitative data in the *Sustainability Report 2010*, which are identified with the ✓ symbol. The report, reporting procedures and results of environmental, social and economic performance remain the sole responsibility of Hydro-Québec's management.

Method

We conducted our review in accordance with standard ISAE 3000. The review process essentially included collection of information, analytical processes, review of reporting procedures and interviews with staff responsible for the information, for the purpose of obtaining limited assurance regarding the quantitative data identified.

Conclusion

During our review, nothing came to our attention that would cause us to believe that the quantitative data in the *Sustainability Report 2010* identified with the ✓ symbol are not in all material respects presented according to Hydro-Québec's reporting procedures.

Ernst & Young LLP[1]

Ernst & Young LLP
March 23, 2011

1. C.A. auditor permit no. 15764

UNITS OF MEASURE

¢/kWh	$0.01 (one cent) per kilowatthour
$M	millions of dollars
$B	billions of dollars
V	volt (a unit for measuring voltage)
kV	kilovolt (one thousand volts)
W	watt (a unit for measuring power)
kW	kilowatt (one thousand watts)
MW	megawatt (one million watts)
GW	gigawatt (one million kilowatts)
Wh	watthour (a unit for measuring electric energy)
kWh	kilowatthour (one thousand watthours)
MWh	megawatthour (one million watthours)
GWh	gigawatthour (one million kilowatthours)
TWh	terawatthour (one billion kilowatthours)
t	tonne (metric ton)
t CO_2 eq.	tonne of CO_2 equivalent
kt CO_2	one thousand tonnes of CO_2
Mt CO_2 eq.	one million tonnes of CO_2 equivalent

The following documents may be obtained from our Web site **www.hydroquebec.com** or by calling 1 800 ÉNERGIE:

Sustainability Report 2010 (this document)

Annual Report 2010

Profil régional des activités d'Hydro-Québec – 2010 *(Available in French only)*

Financial Profile 2010–2011

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www.hydroquebec.com/sustainable-development

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